March, 1951

LIPPINCOTT LIBRARY

APR 3 1951

EDISON ELECTRIC INSTITUTE BULLETIN

	Page
Responsibilities and Potentialities of the Electric Industry Will Be Dominant Themes in EEI Convention	65
Denver—Host to the EEI Convention	66
Comprehensive Program Scheduled for Annual Sales Conference	69
Possible Effect of War Economy on Electric Utilities — WALTER H. SAMMIS	71
The Proposed Tax Increase and the Electric Industry — CHARLES E. OAKES	76
The Future—Whose Responsibility? — ELMER L. LINDSETH	79
The Most Comforting Item in the Household Price Picture	82
What Vepco Employees Think of Their Information Program — W. E. WOOD	83
"Portrait of Power"	86
Electrical Equipment Committee Meeting — J. H. FOOTE	89
Activities Report of the Joint Research Committee on Boiler Feedwater Studies — S. F. WHIRL	90
Transmission and Distribution Committee Meeting — J. E. McCORMACK	91
Personals	94
Conventions and Meetings	96

PUBLISHED MONTHLY BY EDISON ELECTRIC INSTITUTE

ELECTRICAL RESEARCH STATISTICS
THE ELECTRIC LIGHT AND POWER INDUSTRY

Current Statistical Data Covering 100 Per Cent of Industry

December, 1949-1950

SOURCE AND DISPOSAL OF ENERGY—MONTH OF DECEMBER

	1950	1949	%
GENERATION* (Net)			
By Fuel Burning Plants	21,943,608,000	18,719,941,000	+17.2
By Water Power Plants	8,688,791,000	7,627,994,000	+13.9
Total Generation	**30,632,399,000**	**26,347,935,000**	**+16.3**
Add—Net Imports Over International Boundaries	124,439,000	48,873,000	+154.6
Less—Company Use	132 756,000	135,437,000	− 2.0
Less—Energy Used by Producer	601,481,000	285,370,000	+110.8
Net Energy for Distribution	**30,022,601,000**	**25,976,001,000**	**+15.6**
Losses and Unaccounted for	4,382,272,000	3,956,314,000	+10.8
Sales to Ultimate Customers	**25,640,329,000**	**22,019,687,000**	**+16.4**

CLASSIFICATION OF SALES

NUMBER OF CUSTOMERS—As of December 31st			
Residential or Domestic	37,532,549	35,375,366	+ 6.1
Rural (Distinct Rural Rates)	1,596,146	1,804,415	−11.5†
Commercial or Industrial:			
Small Light and Power	5,466,181	5,290,768	+ 3.3
Large Light and Power	234,728	232,125	+ 1.1
Other Customers	156,688	148,107	+ 5.8
Total Ultimate Customers	**44,986,292**	**42,850,781**	**+ 5.0**
KILOWATTHOUR SALES—During Month of December			
Residential or Domestic	6,559,738,000	5,604,071,000	+17.1
Rural (Distinct Rural Rates)	478,034,000	506,279,000	− 5.6
Commercial or Industrial:			
Small Light and Power	4,443,350,000	4,047,325,000	+ 9.8
Large Light and Power	12,595,651,000	10,383,512,000	+21.3
Street and Highway Lighting	320,865,000	291,148,000	+10.2
Other Public Authorities	638,284,000	580,220,000	+10.0
Railways and Railroads:			
Street and Interurban Railways	333,792,000	333,693,000	0.0
Electrified Steam Railroads	223,628,000	221,734,000	+ 0.9
Interdepartmental	46,987,000	51,705,000	− 9.1
Total to Ultimate Customers	**25,640,329,000**	**22,019,687,000**	**+16.4**
Revenue from Ultimate Customers	**$458,072,100**	**$409,941,700**	**+11.7**

RESIDENTIAL OR DOMESTIC SERVICE

AVERAGE CUSTOMER DATA—For 12 months ended December 31st			
Kilowatthours per Customer	1,830	1,684	+ 8.7
Average Annual Bill	$52.70	$49.68	+ 6.1
Revenue per Kilowatthour	2.88¢	2.95¢	− 2.4

* By Courtesy of the Federal Power Commission.
† Negative Percentage due to Reclassification.

Vol. 19, No. 3, EDISON ELECTRIC INSTITUTE BULLETIN; published monthly. Entered as second-class matter Aug. 17, 1933, at the post office at Philadelphia 2, Pa., under the act of March 3, 1879. Publication office, 56th and Chestnut Sts., Philadelphia 39, Pa. Editorial office, 420 Lexington Ave., New York 17, N. Y. Subscription rate $2.00 per year in the United States; $3.00 per year in foreign countries.

The Edison Electric Institute does not assume responsibility for, nor necessarily endorse or approve, statements made by contributors to the BULLETIN.

EDISON ELECTRIC INSTITUTE BULLETIN

Volume 19 MARCH, 1951 No. 3

Responsibilities and Potentialities of Electric Industry Will Be Dominant Themes in EEI Convention

BRINGING into focus widely divergent problems sharpened by the national emergency, the program of the Institute's 19th Annual Convention, to be held in Denver, Colo., June 4-7, is designed to help electric companies carry out power supply responsibilities in the face of conditions which may vary from peaceful long-term maintenance of defenses to all-out war.

Financing, equipment manufacture, improving farm productivity electrically, allocations and priorities are among the subjects to be discussed having direct relation to electric utility operation in a mobilized economy.

Balancing the treatment of these questions, made vital by aggressive acts of Communist nations, the threat of collectivization from within will be dealt with in talks on the government's place in a free economy, and the implications of the President's Water Resources Policy Commission Report. For perspective on all these topics, an over-all view of the future responsibilities and potentialities of the electric companies will be offered.

GEORGE M. GADSBY
Chairman, Convention Program Committee

This comprehensive and timely program, which will present as speakers distinguished industrialists, educators, and public figures, has been arranged by the Convention Program Committee, composed of Chairman G. M. Gadsby, President, Utah Power and Light Co.; J. E. Loiseau, President, Public Service Co. of Colorado; and C. P. Crane, President, Consolidated Gas Electric Light and Power Co. of Baltimore.

Four general sessions will be held, the first on Tuesday morning, June 5, the second on Tuesday afternoon, and the third on Wednesday morning, June 6. The fourth session, on Thursday morning, June 7, will bring the convention to a close.

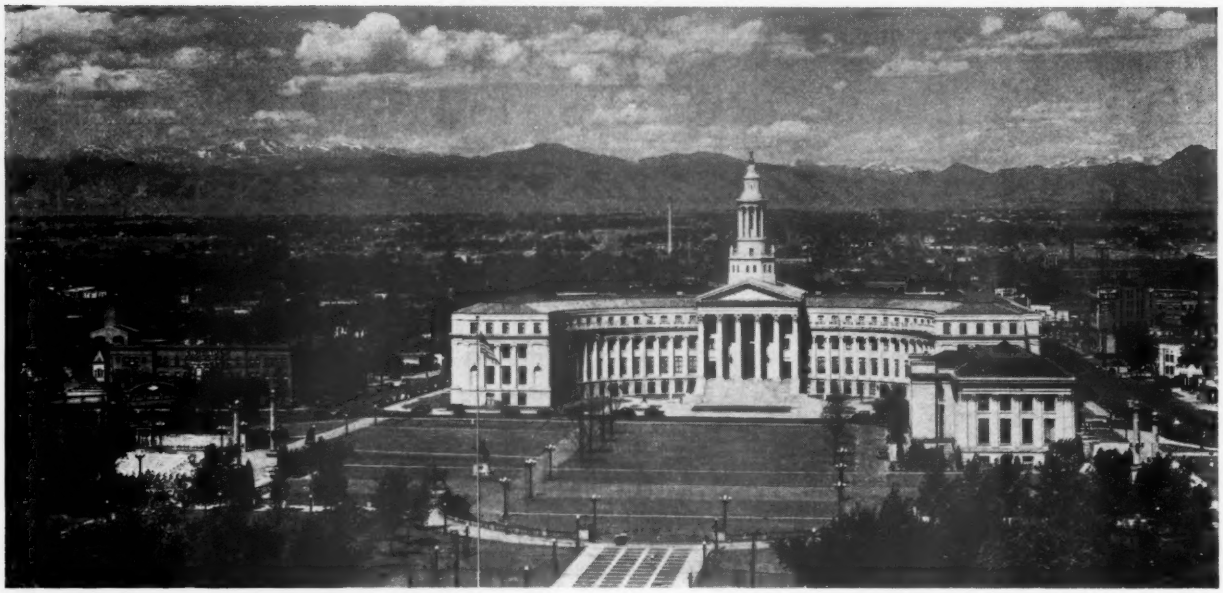
All sessions will be held in the Lincoln Room of the Shirley Savoy Hotel and in the Silver Glade of the Cosmopolitan Hotel.

Registration will begin Monday and continue through the convention. However, for the convenience of delegates who arrive in Denver early, registration

(*Continued on page* 75)

CHARLES P. CRANE
Member, Convention Program Committee

J. E. LOISEAU
Member, Convention Program Committee



Denver's City and County Building Against a Backdrop of Rugged Foothills and Snow-clad Peaks

Denver—Host to the EEI Convention

Mile-High City Boasts Ideal Climate and Scenic Grandeur

DENVER, the hub of the Rocky Mountain Empire, will play host to the nineteenth annual EEI Convention. Here in the capital of Colorado, on June 4-7, member company delegates and guests will attend meetings which will focus attention on problems of vital interest to the industry. However, Denver's scenic grandeur and ideal climate should offer ample opportunity for relaxation.

Situated on a Plateau

Seated on a mile-high plateau at the foot of the Rockies, Denver sprawls out in an attitude of solid prosperity. A city of tree-lined avenues, spacious parks, and well-cultivated residential areas, Denver is luxuriantly green in summer because of water supplied by the melting snows of nearby snow-clad peaks. The plain occupied by Denver is only sparsely wooded, and the city squats on this tableland like a verdant oasis set against a backdrop of rugged mountains.

Denver's system of more than forty parks, open for relaxation, bowling, golf, and tennis, is unparalleled in the nation. At Cheesman Park, with its view of the mountains, outdoor operas featuring local artists are presented on summer evenings. Washington Park boasts swimming facilities and carefully tended gardens. Boating is provided on Sloan's Lake, and in the elm-shadowed loveliness of City Park, naturalists can satisfy their curiosity at the zoo or in the Museum of Natural History. The cost-free summer evening performances of the Denver Municipal Band in City Park have become nationally known for their excellence.

Convention delegates will find rugged wilderness in the city parklands a few miles outside the downtown business district. Denver's chain of mountain parks is unique in that it includes a mountain 14,000 feet high, ghost mining towns, running trout streams, and 22,000 acres of picnic grounds. Through the summer the Denver symphony presents weekly concerts in a spectacular natural amphitheatre which is found in Red Rocks Park, eleven miles from the city. Nestled among red sandstone cliffs in the Colorado foothills, the open-air theatre seats 10,000, and its acoustics have been pronounced perfect.

West of Denver stands Central City, once a rowdy mining town, with its historic Glory Hole dance hall, "face on the barroom floor," and Central City Opera House, where Sarah Bernhardt, Mrs. Siddons, and Edmund Booth played to miners of the gold boom era. Right in Denver, the Elitch Gardens Theatre presents an annual season of plays for contemporary audiences. The world's oldest summer stock playhouse, it has nurtured stage hopefuls and famous thespians from Mrs. Fiske to Frederic March.

Stately Civic Center

Denver is at its man-made best in its stately Athenian civic center. Here, grouped around central lawns, are the State Capitol with its gold dome, the City County Building, the Greek Theatre, and the Public Library. Nearby is the U. S. Mint, which contains more gold than was ever dreamed of in the palmiest days of Denver's gold rushes. Because of restrictions against wooden structures adopted in the early days, most of the city's buildings are constructed of brick and masonry, and Denver is unusually clean and goodlooking.

Room assignments for delegates and guests will be made from the accommodations of eleven hotels, in the gen-

eral vicinity of the civic center, which have been chosen for their location and facilities. Excellent motor court accommodations in Denver and environs are also available for delegates who are driving to the convention. All applications for reservations should be sent to the Convention Housing Director in Denver, who will make room assignments.

Colorado's choicest scenic spots are within a few minutes drive of Denver. Excellent hard surface roads, which radiate from the city, follow the prospector's trails of gold rush days and guide the motorist up the mountains, through old mining towns and dude ranches, around hairpin turns which skirt precipitous canyons, and into the splendor of mountain ridges. One 153-mile round trip leads to Buffalo Bill's grave at the top of Lookout Mountain, with its view of Denver thousands of feet below, and continues on over the highest automobile road in America to the summit of 14,260 foot Mt. Evans. Similar trips take the visitor to Boulder and Flatirons; to Estes Park through Big Thompson Canyon; and to Pike's Peak and Colorado Springs.

City Park, Where Band Concerts are Given on Summer Evenings

A Major Seat of Learning

Denver's first school teacher, dressed in a black broadcloth frock coat, high silk hat, and yellow gloves, drove into town late in the summer of 1859 behind a team of oxen, which he belabored with Greek and Latin oaths. He soon began Colorado's first school with thirteen pupils. From this humble beginning, Denver has today become one of the west's major seats of learning, and within its environs seven universities, colleges, and seminaries offer courses in higher education. Its public school system, which includes seventy-five elementary and secondary schools, has achieved excellence generally not found in cities of comparable size. In addition to public schools, the city also supports thirty-one parochial grade schools.

The climate of Denver is justly famed, and it, along with the city's scenic mountain surroundings, accounts for much of Denver's tourist trade. Over the past seventy-eight years the climate of the city has averaged a high of 80 degrees, a low of 54 degrees, and over the past ten years it can boast an average of 350 days of sunshine per year. However, nights in the mile-high city are apt to be crisp, and delegates are advised to bring light wraps with them.

The site of Denver was first settled by a white trapper and his Sioux wife in 1857. In the following summer, traces of gold were found in nearby Cherry Creek, and a group of Kansans moved in and built log cabins. As the gold rumor spread, other settlements sprang up, and a City Town Company was formed which assumed the name of the territorial governor of Kansas, General James W. Denver. However, the prospectors who had streamed into Denver shouting "Pike's Peak or Bust" were soon disillusioned, for the Cherry Creek strike turned out to be insignificant. But in 1859, the year that the famed *Rocky Mountain News* was founded in Denver, gold was discovered in quantity thirty-five miles from the city, and Denver's importance was thus established.

Denver's sympathies were divided in the Civil War, but the city contributed three regiments of troops to the Union Army.

Rail Spur Laid to Denver

After the Civil War, despair settled over the city, for the Union Pacific Railroad, instead of running through Denver, had chosen a less mountainous route which took it to Cheyenne. Refusing to remain isolated, the hardy Denverites raised $300,000 and built a road bed to Cheyenne on which the Union Pacific agreed to lay tracks. This spur, completed in 1870, was the forerunner of

Grand Lake in the Rocky Mountains, Few Hours' Drive from Denver

The Colorado State Capitol in Denver's Stately, Athenian Civic Center

the seven railroads, five airlines, and three coast-to-coast bus lines which today provide easy access to the city from all parts of the continent.

In the seventies, when the gold deposits which supported Denver seemed to be giving out, the city was revived by the great silver lodes which were discovered in Leadville and other places. Thus in the eighties Denver became a millionaire's town and was soon so wealthy that it weathered the financial panic of the nineties with relative calm. The turn of the century found gaudy, boom-town Denver growing and on the eve of sedate maturity.

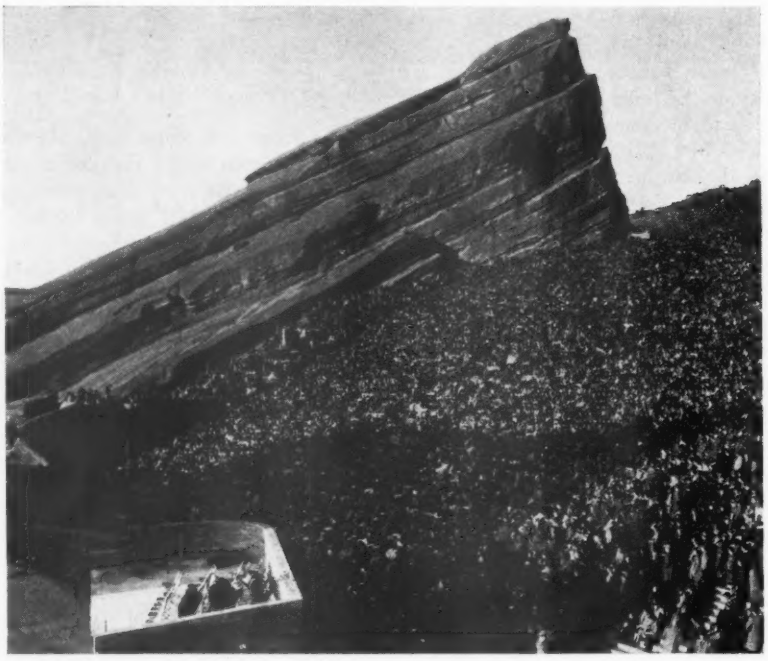
Today Denver is not only the capital of a prosperous state. It is also the administrative, financial, commercial, and industrial center of the Rocky Mountain Empire, for there is no large city within 500 miles of Denver in any direction.

Industrialization, a New Trend

Denver's meat packing industry is flourishing, and, besides being the world's foremost sheep market, the city is becoming a wool market. Though not highly industrialized, the city is one of the nation's principal centers for the manufacture of luggage and rubber goods, and in recent years Denver's machinery companies have started making oil field equipment in addition to mining equipment. Industrialization is a new trend in Colorado, and it gives promise of using the state's vast resources of land and water.

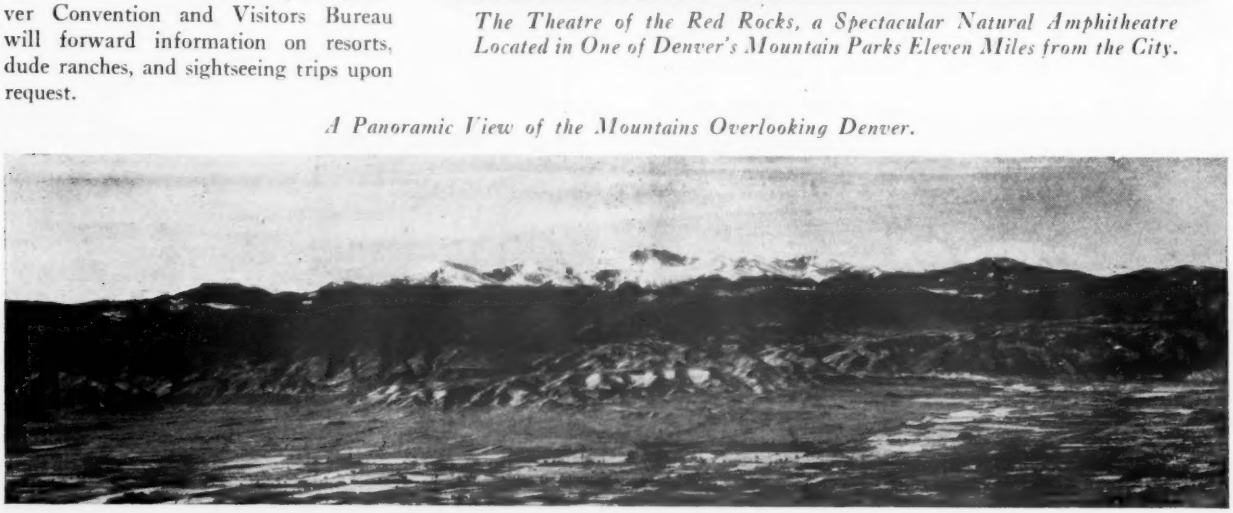
Denver, with its spectacular natural setting and healthful climate, should prove to be an excellent convention city. And if any delegates wish to spend a few days in the mountains, either before or after the convention, the Denver Convention and Visitors Bureau will forward information on resorts, dude ranches, and sightseeing trips upon request.

Foote Hall at Colorado Woman's College, One of the Seven Universities, Colleges, and Seminaries Found in the Denver Area.



The Theatre of the Red Rocks, a Spectacular Natural Amphitheatre Located in One of Denver's Mountain Parks Eleven Miles from the City.

A Panoramic View of the Mountains Overlooking Denver.



Comprehensive Program Scheduled for Annual Sales Conference

Meeting to Be Held in Chicago, April 2-5

THE Seventeenth Annual Sales Conference of the Edison Electric Institute will be held at the Edgewater Beach Hotel in Chicago on April 2-5. A comprehensive program is being prepared, which will deal with major problems confronting electric company sales executives, and a group of well-qualified speakers have been secured to discuss these problems.

On Monday, April 2, the various committees of the Commercial Division, including the Commercial Division General Committee, will hold meetings. The Home Service Conference, initiated in 1949 at the Fifteenth Annual Sales Conference, will also convene on Monday. On Tuesday, April 3, the four sectional meetings will be held, to be followed on Wednesday, April 4, and Thursday, April 5, by the General Sessions. The Sales Conference will close with a luncheon meeting on Thursday, April 5.

Following is a tentative program outlining the subjects to be covered and listing most of the speakers for the various conference meetings.

General Sessions

M. E. Skinner, Chairman of the EEI Commercial Division General Committee and Vice President of the Union Electric Co. of Missouri, St. Louis, Mo., will preside at all of the General Sessions meetings. Mr. Skinner will open the first meeting on April 4 at 9:30 a. m. and will introduce M. S. Rukeyser, INS business news columnist, whose subject will be "The Shadow of Coming Events," an analysis of current business as affected by the international situation. Dr. Lillian Gilbreth, President of Gilbreth, Inc., Montclair, N. J., will then describe in an address, "Some Problems That Challenge Us Today," what electricity can do for handicapped people. Concluding the morning meeting will be the presentations of the Thomas W. Martin Rural Electrification Award, the George A. Hughes Awards for electric cooking promotion, the Laura McCall Home Service Awards, the Frank E. Watts Awards, and the Planned Lighting Awards. G. E. Whitwell, Chairman of the EEI Prize Awards Committee and Vice President of the Philadelphia Electric Co., will officiate at the presentations.

First speaker at the afternoon session, convening at 2:15 p. m., will be W. V. O'Brien, Vice President of the General Electric Co., who will speak on "Industry and the Defense Effort." He will be followed by T. Collins, Publicity Director of the City National Bank and Trust Co. of Kansas City, Mo., whose talk, "This Promising World," will deal with advertising.

Discussing current manpower problems in the utility business with reference to sales and promotional departments will be C. B. Boulet, Personnel Director of the Wisconsin Public Service Corp., whose subject will be "Will We Have Salesmen?" "A Sales Blueprint for 1951," an address by Dr. D. G. Powers, of Queens College, Flushing, N. Y., will then conclude the first General Sessions meeting.

On Thursday morning, the General Sessions will convene at 9:30 a. m. to hear T. B. Hale, Vice President of General Sales, International Harvester Co., whose talk, "America's Best Customer, the Farmer," will be concerned with load building in rural areas. Following him will be A. Murphy, Vice President of the Columbia Broadcasting System, who will speak on "Color Television," and J. M. McKibbin, Vice President of Westinghouse Electric Corp., Pittsburgh, Pa., who will discuss "Electrical Living for Everybody."

Summarizing the activities of the EEI Commercial Division in an address, "The Work of the Commercial Division Committees and You," Chairman M. E. Skinner will illustrate with the aid of skits the opportunities for better business resulting from the operation of these committees.

At the General Sessions luncheon, Thursday, April 5, L. V. Sutton, President of the Edison Electric Institute and of the Carolina Power and Light Co., Raleigh, N. C., will give an address, "There Is a Selling Job to be Done," on the effects of the current emergency on electric companies. Following will be a talk, "Five Buckets of Paint," by Dr. K. McFarland, Superintendent of Schools, Topeka, Kan., which will bring the Sales Conference to a close.

Commercial Sales Section

The four section-sponsored meetings will all begin at 10:00 a. m. on Tuesday, April 3.

The Commercial Sales Section meeting will convene with R. I. Bull, The Ohio Power Co., Canton, Ohio, Chairman of the Commercial Lighting Committee, presiding. Following opening remarks by C. D. Hollister, Niagara Mohawk Power Corp., Albany, N. Y., Chairman of the Commercial Sales Section, D. Dunne, Vice President and Sales Director of Lighting Products, Inc., Highland Park, Ill., will talk on "Results of Planned Lighting Promotion in Indianapolis," and B. D. Levaur, Vice President of the Pittsburgh Reflector Co., Pittsburgh, Pa., and Chairman of the NEMA Industrial and Commercial Lighting Equipment Section, will discuss "The Lighting Fixture Outlook."

The meeting will then be turned over to R. M. Hoot, the Philadelphia Electric Co., Chairman of the Street Lighting Coordination Committee, who will introduce E. B. Karns, the next speaker. Mr. Karns, Manager of Street Lighting Applications for the Westinghouse Electric Corp., Cleveland, Ohio, will present the "Sales Aspects of the ASA Street Lighting Code." An address, "Keeping the Street Lighting Job Sold," by J. P. Rutherford, Assistant Manager of the Lighting Division of the General Electric Co. in Lynn, Mass., will conclude the morning session.

The afternoon session will meet at 2:15 p. m. with S. S. Sansbury, the Union Electric Co. of Missouri, Chairman of the Commercial Cooking Com-

mittee, presiding. H. E. Carney, Manager of the Commercial Department, Toledo Edison Co., Toledo, Ohio, will discuss the "Sales Program That Won the 1949 Hughes Award," and W. G. Parry, General Sales Manager of the New Jersey Power and Light Co., Dover, N. J., will present a "Review of 1950 Cooking Activities."

"Commercial Cooking Sales Aids," an address which is subtitled "New EEI Materials," will be given by J. G. Snyder, Assistant Manager of Domestic-Commercial Sales of the American Gas and Electric Service Corp., New York City. L. P. Fries, Assistant Power Sales Manager of the New York State Electric and Gas Corp., Binghamton, N. Y., will then discuss "Selling Cooking with Data Sheets."

Following these talks will be the presentation of the Data Sheet Award by M. E. Skinner, Chairman of the Commercial Division General Committee. This award is offered each year to the individual who has submitted the data sheet considered by judges to be most useful from the sales viewpoint of electric companies.

Concluding the Commercial Sales Section meeting will be two addresses, "Heat Pump Application in Restaurant Operation" by O. C. Mayer of the Idaho Power Co., Boise, Ida., and "Things To Be Done in '51," by O. E. Wolf, Vice President of Hot Point, Inc., Chicago, Ill.

Farm Section

R. T. Jones, Pennsylvania Power and Light Co., Allentown, Pa., Chairman of the Farm Section, will preside at the meeting.

The first speaker will be W. F. Deming, National Association Domestic and Farm Pump Manufacturers, Chicago, Ill., who will discuss the "Problems Arising from Increased Use of Water on the Farm." J. K. Richards, Radio Station WKAR, Michigan State College, will then talk on "The Use of Radio in Farm Electrification," and E. E. Hotchin, State Association of Mutual Insurance Companies, Lansing, Mich., will deal with "The Fire Insurance Companies' Stake in Farm Electrification." Closing the morning session will be an address by L. Beymer, member of the Indiana National 4-H Club, who will speak on the subject, "What Electrical Training Has Meant to Me in 4-H Club Work."

The Farm Section luncheon will follow the conclusion of the morning session, and the luncheon speaker will be Dr. J. O. Christianson, Superintendent of the School of Agriculture, University of Minnesota, who will deliver a talk entitled "Rediscovering America."

L. S. Hartley, Manager of Agricultural Development, Baltimore and Ohio Railroad, will open the afternoon session at 2:15 p. m. with a talk on "Generating Business." R. W. Godley, Agricultural Counsel for the Kroger Co., Cincinnati, Ohio, will discuss "Building Character and Reputation," and G. W. McCuen, of the Department of Agricultural Engineering, Ohio State University, will present the "Formation and Objectives of Farm Electrification State Councils." J. B. Stere, Agricultural Engineer, the C. A. McDade Co., Pittsburgh, Pa., will bring the Farm Section meeting to a close with a talk on "Farm Dealer Training."

Industrial Power and Heating Section

The morning session of the Industrial Power and Heating Section will be presided over by M. Cole, the Philadelphia Electric Co., Chairman of the General Power and Heating Committee. An address, "Man-hours for Essential Production," will then be delivered by R. G. Ely, The Connecticut Light and Power Co., Chairman of the Industrial Power and Heating Section. J. R. David, Industrial Sales Manager of The Cleveland Electric Illuminating Co., will deliver a talk entitled "The Accent's on Production" and R. S. Rice, Industrial Production Editor of *Factory Management and Maintenance* magazine, New York, N. Y., will present an address, "Better Materials Handling Releases Man-hours for Production." Concluding the morning session will be a talk, "Industry's Fastest Growing Tool — Electric Heat," by B. A. Fleming, Vice President of the Edwin L. Wiegand Co., Pittsburgh, Pa.

The afternoon session, presided over by R. G. Ely, will have as its first speaker S. B. Williams, Director of Public Relations for Sylvania Electric Products, Inc., New York, N. Y., whose talk is entitled "Fishing Is an Art." A. G. Hopcraft, Director of Purchases for the Cleveland Worm and Gear Co. and the Farval Corp., Cleveland, Ohio, will discuss "Purchasing for Production," and D. L. Diehl, Manager of the Industrial Development Department, Pennsylvania Power and Light Co., will talk on "Promoting Maximum Industrial Participation in Defense Production." Concluding the day's meeting will be an address entitled, "Your Job—A Challenge," by G. W. Evans, Vice President and General Manager of the Kansas Gas and Electric Co., Wichita, Kan.

Residential Section

J. R. Broderick, Central Illinois Public Service Co., Chairman of the Electric Water Heating Committee, will preside over the morning meeting of the Residential Section. First speaker will be E. O. George, The Detroit Edison Co., Chairman of the Residential Section, whose subject will be "You Can't Live on Curbstone Service." H. I. Miller, Wisconsin Public Service Corp., Oshkosh, Wis., Chairman of the Rate Research Committee, will then talk on "Recent Developments in Water Heater Rates," and R. G. Slaver, Manager of the Applications Laboratory, Sylvania Electric Products, Inc., Salem, Mass., will deal with "Cooking with Infrared Lamps." F. C. Pesveyc, Public Service Electric and Gas Co., Newark, N. J., Chairman of the Television Committee, will state that "Utilities Look at Television—and Like It," and T. L. Losby, Northern States Power Co., Chairman of the Dealer Coordination Committee, will present a report entitled, "Around the U. S. A. with Dealers."

At the afternoon session, which will convene at 2:15 p. m., T. G. Allen, West Penn Power Co., Pittsburgh, Pa., will preside. W. T. Clark, The Cleveland Electric Illuminating Co., Cleveland, Ohio, Chairman of the Electric Kitchen and Laundry Committee, will give a report on the "Range of the Stars" program. Presented next will be "Keeping Ahead of Competition," by E. R. Taylor, Vice President and Sales Manager of Hotpoint, Inc.; "Living With Light," by H. A. Stroud, Monongahela Power Co., Fairmont, W. Va., Chairman of the Better Light Better Sight Home Lighting Education Committee; and "Adequate Wiring Programs That Have Worked," by R. W. Wilson, Kentucky Utilities Co., Inc., Chairman of the Wiring and Specifications Committee.

A panel discussion on "Marketing Programs for Home Lighting" will be conducted. Featured in the discussion will be two talks, "The Best Lighting Program for 1950," by C. A. Stevens, Public Service Electric and Gas Co., and "Lighting Makes the Difference," by J. R. Waters, Jr., Monongahela Power

(*Continued on page* 93)

Possible Effect of War Economy on Electric Utilities

By Walter H. Sammis
President, Ohio Edison Company

An address before the Fourth Annual Convention of The National Federation of Financial Analysts Societies, March 7, 1951

WHETHER or not we are at war may be technically debatable, but there is no doubt that we are already in a war economy. Increased rates of taxation and price and wage stabilization actions by the Federal government are sufficient proof.

Financial analysts and others have been endeavoring to estimate the effects of a war economy upon electric utility securities, particularly common stocks. This is not a simple or easy task, as there are many factors that must be considered, and the effect of these various factors varies to some extent with a utility's location, ratios of its different classes of business, its capital structure, etc. In the time allotted this morning I shall endeavor to analyze with you many of these factors including growth, operating expenses, taxes, depreciation, rates and securities.

During the past thirty years the increase in kilowatthour sales of electricity has averaged 7 per cent per year. Figure 1 shows that during World War II all classes of electric sales increased.

During the war, however, the rate of growth of industrial sales increased more rapidly than in other years due to greater industrial activity. Figure 2 shows the effect of World War II on industrial sales, revealing the curtailment of civilian production and the increase of war production.

Further, during war periods the demand of the industrial customers in kilowatts increases, but their rate of consumption of kilowatthours increases at a more rapid rate, primarily as a result of more two and three shift operations in industrial plants. This situation raises the utility system's load factor, that is, the ratio based upon the use (kilowatthours) to demand (kilowatts). Therefore, the utility operates its generating and other facilities at a higher percentage of its possible twenty-four hour output.

Figure 3 shows the variation of load factor for the past several years, and I particularly wish to call your attention to the material increase in load factor during World War II. Other factors being unchanged, the increment cost of supplying this additional electric energy to the customer at this increased load factor will be lower than average, as the increment cost consists primarily of coal and maintenance expenses. Other items such as operating labor, meter reading, billing, collection expenses, and general administration remain practically the same. This effect is illustrated by the increased output per man-hour during World War II, as shown by Figure 4.

During a war economy, the normal growth of residential sales is handicapped by the restrictions on home building and the reduction in the manufacture of electricity-consuming appliances, but in highly industrialized areas this is offset to some extent by increased use of existing lighting equipment and appliances as a result of families doubling up or renting rooms to others as population flows toward the industrial centers and second and third shift production increases.

The extension of electric service to

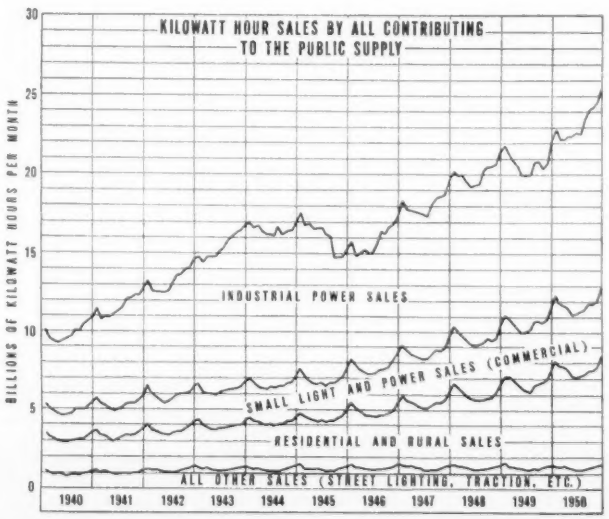


Fig. 1—Increase in Electric Sales During World War II

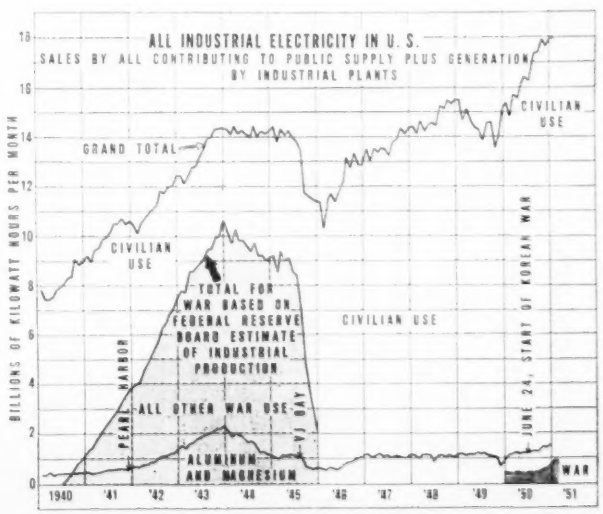


Fig. 2—Effect of World War II on Industrial Sales

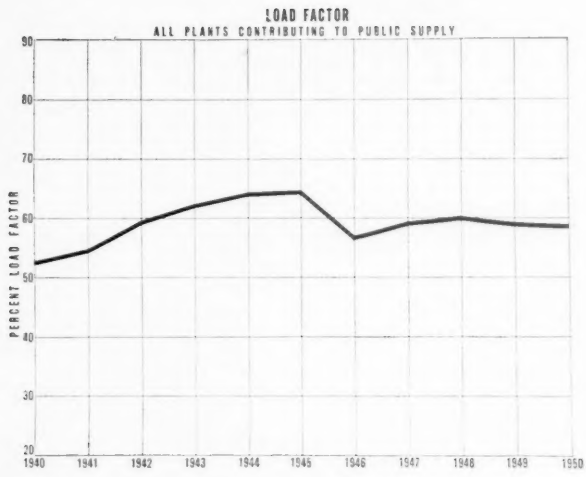


Fig. 3—Variation of Load Factor over the Past Ten Years

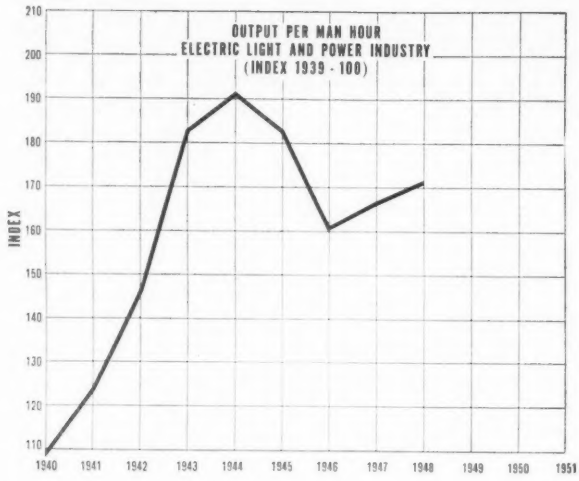


Fig. 4—Man-hour Output Increased in World War II

farm customers has to all practical purposes been completed. Ninety-three per cent of the farms in this country now have electric service, and an additional 2 per cent have it available from electric lines passing by. Incidentally, the electric utility companies, contrary to popular belief, serve approximately 50 per cent of the total farms served. With the increased requirements for food as a result of the war economy and the lesser availability of farm labor, the farmer must resort to more mechanization, which should give greater impetus to farm sales, as was the situation during World War II.

Similar to any industry, a utility company should have good employee relations and pay wages and afford other benefits, such as pensions and insurance programs, which are in line with the going rates and conditions in the area. The electric utility companies, however, differ from most other industries in that the percentage of their gross earnings paid out for wages and other benefits only runs about 21 per cent. The telephone and steam railroad utilities run 54 per cent and 64 per cent respectively.

Further, the electric utility companies provide their employees with $56,600 worth of tools per employee. The latest figures available for all industry are for the year 1946, when the electric utility companies provided $53,500 worth of tools per employee as compared with $7,113 for all manufacturing enterprises.

Another large item of utility expense is the cost of fuel. Increases in miners' wages and increased cost of transportation are factors tending to increase the price of coal; yet, on the other hand, the loss of sales to railroads as a result of dieselization and the loss of residential markets to gas and fuel oil, together with the increased mechanization of mines, have a tendency to decrease the price of coal. In general, the cost of coal (or equivalent in other fuels) delivered reached a peak in the early part of 1949, Figures 5 and 6, and since then has declined to some extent in the face of the miners' wage and welfare fund increases in 1948, 1949, and 1950 and the coal freight increases in 1948 and 1949. It is difficult to foretell the future cost of coal.

Most utility companies have coal riders in their industrial and wholesale rates, and some utilities even extend coal

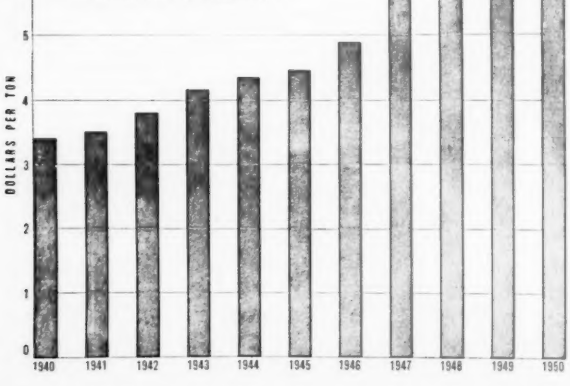


Fig. 5—Dollar Cost of Coal per Ton, by Years, over the Past Ten Years

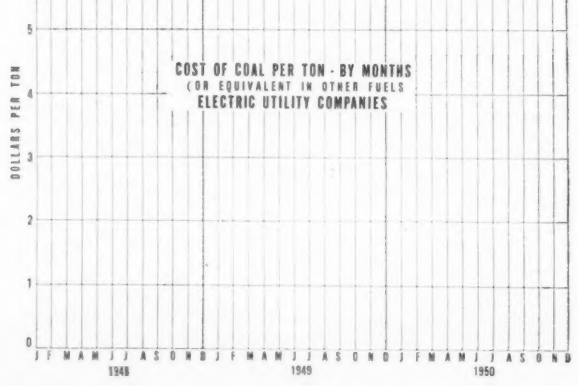

COST OF COAL PER TON - BY MONTHS
(OR EQUIVALENT IN OTHER FUELS
ELECTRIC UTILITY COMPANIES
DOLLARS PER TON
7
6
5
4
3
2
1
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1948
1949
1950

Fig. 6—Dollar Cost of Coal per Ton, by Months, over the Past Three Years

riders to residential and commercial schedules so that a portion or all of the increased cost of coal is paid by the customers. This will vary for individual companies, but as an example, the company with which I am connected picks up about 70 per cent of the increased cost of fuel through the application of coal riders in its rate schedules.

Addition of New Generating Units

A utility company can rarely justify new highly efficient generating units solely on the basis of replacing old, less efficient units, but once the new units are installed to provide increased capacity to carry additional load they will be operated generally on base load, that is, as continuously as possible at full load, thus reducing the hours of operation of the oldest and least efficient units with accompanying savings in generating costs.

Accelerated Amortization

The Revenue Act of 1950 provides for the accelerated amortization of facilities necessary in connection with defense programs. The present act, together with the applicable regulations, differs from that in existence during the last war in that presently "probable economic usefulness" at the end of the five-year period has been added to the considerations, and, further, that expenditures prior to January 1, 1950, will not be considered. A number of utilities have already made application for certificates of necessity. As yet, to my knowledge, no utility applications have been acted upon, but I am informed that such applications are being looked upon favorably.

As you gentlemen know, you can only take depreciation for tax purposes once, so that from a long-range standpoint any additional depreciation that is taken during the five-year period reduces the amount of depreciation that can be taken in the future. However, in general, income tax rates are higher during war periods than during peace periods. In addition, one of the greatest benefits to the electric utility is that the accelerated amortization produces cash at a time very useful to the utility in its expansion program.

Taxes

Taxes are one of the largest items of electric utility expense. Electric utility companies pay 20 cents of every dollar of gross revenue for taxes. This is an unusually heavy burden as compared with other industries. The major portion of the utility's taxes, namely 11½ cents, goes to the Federal government. In fact, for the year 1949 electric utility companies paid 8.7 per cent of their operating revenues as Federal income taxes, as compared to 3.5 per cent by all manufacturing corporations. These figures indicate that the electric utilities seem to be already carrying more than a fair share of the Federal income tax burden.

Further, I wish to call attention to the fact that the electric utilities are already paying and assuming themselves, i.e., not adding specifically to the customer's bill, a Federal excise tax of 3⅓ per cent on all sales other than to industries engaged in manufacture.

In this connection, I cannot refrain from calling attention to the inequity that exists in that local, state, and Federal governments and rural electric cooperatives, which provide approximately 20 per cent of the entire electric requirements in the country, pay neither Federal income taxes nor the Federal excise tax on electrical energy.

Rates

The average price paid for electricity consumed in the home is lower today than a decade ago, as is shown in Figure 7, and is one of the few, if not the only item of the household budget that has not increased during that period.

In general, rates charged by electric utilities are subject to approval by one or more regulatory bodies. Contrary to the belief of some, the most recent decision by the Supreme Court, namely the Hope case, provided that rates should be such as to enable a company to operate successfully, to maintain its financial integrity, to attract capital and to compensate its investors for the risks assumed and did not provide, as some believe, that the rate base should be original cost depreciated.

All rates of electric utility companies are exempt from the provisions of price control under the Defense Production Act of 1950, except that no utility may make any increase in its rates for service sold by it to others for resale to the public for which application is filed before a regulatory authority, unless the utility gives thirty days' notice to the Federal government and consents that if the government desires it may intervene.

Regulatory authorities are cognizant of the fact that, if the utility is to provide the necessary increased requirements of existing customers and the extension of service to additional customers, it must be able to obtain the money required for expansion by selling securities in the competitive market with other utilities and other industries. During the past four years, 139 electric utilities have received 224 rate increases of one form or another, and it is my opinion, speaking in general terms, that when and where the utility companies need increases they will be permitted by regulatory authorities upon proper showing.

When revising residential rates, more and more companies are incorporating so-called demand features in their rate schedules for the larger demand customers. This has the effect of raising the rate level to these customers. At the present time only a small percentage of

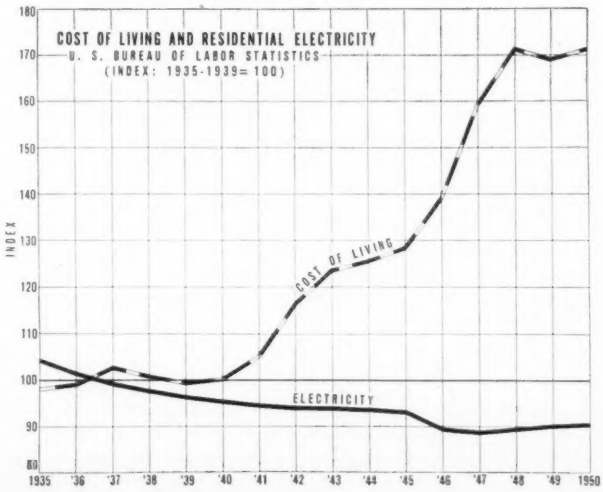


Fig. 7—Decline in the Cost of Residential Electricity

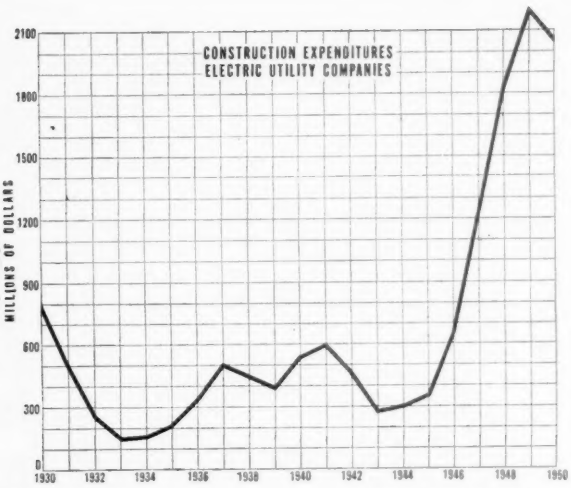


Fig. 8—Electric Company Expansion as Indicated by Construction Expenditures

Fig. 9—Dividends Paid by Electric Utility Corporations in Relation to Other Corporations

the customers will be affected, but as time goes on a greater and greater percentage will fall into this grouping, as the larger connected load appliances and equipment are added.

Consistent Need of Funds

The utility industry is not a mature industry and consistently needs funds for expansion of its utilities, as can be seen from Figure 8. Some of these funds, of course, are obtained from its depreciation and other accruals and from the earnings retained after dividends. The remainder, however, with perhaps the exception of a few severe depression years and World War II years, when expansion programs were at a minimum, must be obtained from the sale of securities.

The utility industry differs from all other industries in that it requires for its operation four dollars of investment for each one dollar of annual gross earnings, whereas many industries have a yearly gross revenue in excess of their investment. Thus, with continual growth the utility companies are in the market for money quite regularly. The sale of the various classes of securities must, in general, be authorized by regulatory authorities. The utilities must provide suitable times earnings ratios in connection with bonds and preferred stocks, and must have earnings for common stock sufficient to attract capital, whose owners seek not only a favorable return but a stability commensurate with that return. Records show that over a period of years the per cent dividends on book value of capital stock and surplus has been more stable than for all manufacturing corporations and for all corporations, and the percentage dividend has in general been higher, as can be seen from Figure 9.

Attention has frequently been called by investors to the fact that interest rates and preferred stock dividend rates are lower than years ago, prior to the rapid decline in the purchasing power of the dollar. We all know that in general the Federal government's bond programs set the basic standards for the return on money invested. It is most unfortunate that prices of products and wages to individuals have increased materially over the past decade, whereas the rate paid for money has materially decreased. As time goes on this factor, together with high taxes, may cause shrinkage of funds available for private investment and result in situations that

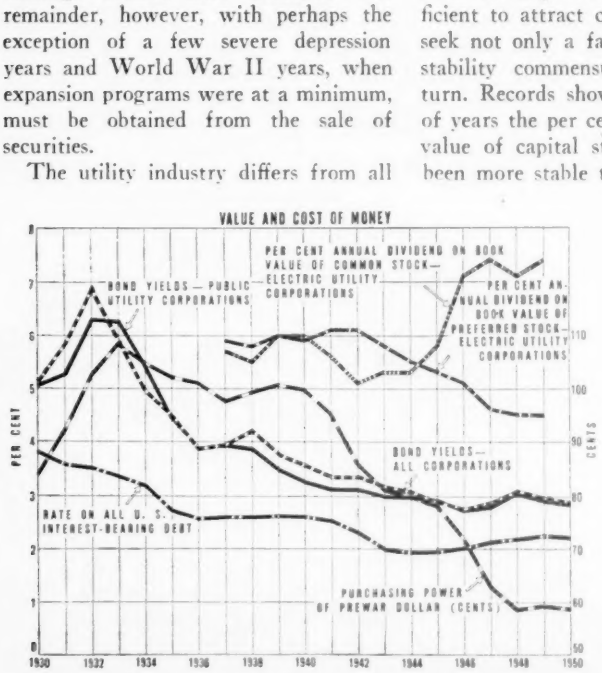


Fig. 10—Relationship of Purchasing Power, U. S Debt Interest, and Return on Electric Utility Securities

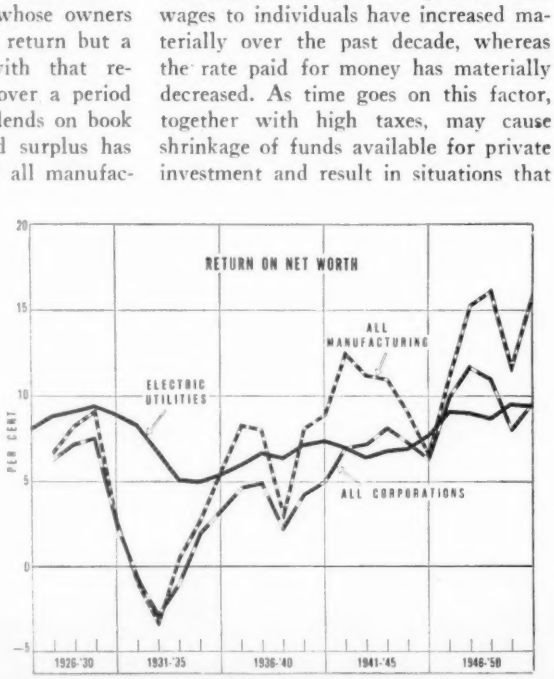


Fig. 11—Corporation Stockholders' Equity After the Deduction of Debts

we find in foreign countries. The general public must be constantly alerted to this, shall I say, socialistic trend that confronts us and apparently seems to be gradually increasing. Figure 10 shows this relationship between the purchasing power of the dollar, government debt interest, and return on book value of electric utility companies' securities. The per cent dividend on electric utility commons has increased, which is contrary to the trend.

Further, some investors, in connection with the investment of their money, watch closely inflationary tendencies and, during periods of inflation or anticipated inflation, often favor securities of industries which have raw material assets. In this connection, one should not overlook the fact that the assets of the electric utility companies are in long-lived structures and equipment whose value increases with inflation, and the volume of the assets in dollars is several times the annual gross earnings.

Through the courtesy of Mr. Alan H. Temple, vice president of the National City Bank of New York, I obtained Figure 11. This chart shows the rate of return on net worth, that is, the stockholders' equity after the deduction of debts. It also shows the relative stability of the stockholders' return from electric utilities as compared with all corporations and with manufacturing corporations. From 1926 to 1950 inclusive, a period of twenty-five years, the average return on electric utilities was 7.5 per cent as compared with 7.8 per cent for manufacturing corporations and 5.5 per cent for all corporations. This shows electric utilities to be favorable both from an average return basis and from a stability standpoint.

In closing, the electric utility companies' securities in a war economy with taxation that is not too inequitable should be attractive.

Dominant Themes of Coming EEI Convention

(*Continued from page* 65)

booths will be open Sunday afternoon. There will be a registration fee and all delegates are urged to enroll promptly after checking in at their hotels. Admittance to business sessions and social functions will be by convention badge only, and this identification may be obtained only at the time of registration. General information booths will be located in all of the eleven convention hotels.

The coming meeting will be the first EEI Convention ever to convene in Denver. Few cities are endowed with a natural setting more spectacular than that of Denver, and the city, with its cultural advantages and numerous facilities for relaxation, should prove interesting and stimulating to delegates.

In addition to the business program, of first importance to delegates, a comprehensive and well-planned series of recreational and social functions is being prepared. After registration on Monday afternoon, there will be a cocktail party for delegates and guests, sponsored by the electric companies of the Rocky Mountain area. This will be followed by dancing.

The social aspects of the convention will come into prominence on Tuesday evening, when a buffet dinner will be held. After dinner, Fred Waring and his Pennsylvanians will entertain delegates in the Lincoln Room of the Shirley Savoy. Mr. Waring's fully-orchestrated treatment of popular music has won him national acclaim, and his appearance at the convention should be an especially pleasant interlude.

The feature of the evening will be the presentation of the coveted Coffin Award during an intermission in Mr. Waring's program. Following the Pennsylvanians, music for dancing will be provided.

Denver is famed for its unique system of mountain parks, and on Wednesday afternoon, since no business sessions are scheduled, delegates will be offered their choice of three mountain bus trips of from four to five hours' duration. One trip will give delegates an opportunity to explore Central City, an old mining town of the gold boom era, and continue on to Black Hawk, the site of the great gold strike of 1859. A second tour will include visits to Buffalo Bill's grave atop Lookout Mountain, and to Red Rocks Park in the Colorado foothills, where an amazing natural amphitheatre is located. A third tour will proceed to Echo Lake, situated at an elevation of 10,600 ft., where there are picnic grounds, a municipal lodge, and timberline trees which form the summer habitat of elk. And for those delegates who do not wish to leave the city, a bus tour of Denver itself will be conducted.

No provisions for dinner on Wednesday evening have been made. Later that night, however, when the mountain tours have been concluded, buses will be available to take delegates to the Koshare Indian dances, which will be staged in the Field House of the University of Denver. The Koshare Indians claim to be the world's greatest paleface interpreters of the ways of the Red Man. Officially they are members of Boy Scout Troop 230 of La Junta, Colorado, who have become nationally famous for their colorful and accurate portrayals of Indian customs and dances. In demand for conventions and fairs, the Koshares have given performances throughout the country, including an appearance at Madison Square Garden in New York City.

It is anticipated that many delegates may wish to combine their vacations with the convention, and to facilitate this, all the convention hotels will be able to arrange further bookings and travel reservations.

Frederic S. Brown

FREDERIC S. BROWN, electrical engineer with the Duquesne Light Co. and a member of the EEI Electrical Equipment Committee, died on March 4. He had retired from the company three days before his death, after forty years of service.

A native of Lenox, Massachusetts, Mr. Brown graduated from Worcester Polytechnic Institute in 1907 with a B.S. degree in electrical engineering and began his association with the Duquesne Light Co. in 1910. He had a variety of positions in the company until 1945, when he assumed direct charge of the Electrical Engineering Department.

During his extensive career in the utility business, Mr. Brown contributed to the design of electric facilities at the Colfax, Reed, Phillips and Elrama power stations. In addition to his EEI activities, he was a prominent member of the Pennsylvania Electric Association, the American Institute of Electrical Engineers, and the Engineers' Society of Western Pennsylvania.

The Proposed Tax Bill and the Electric Industry

By Charles E. Oakes

President, Pennsylvania Power & Light Company; Chairman, EEI Special Tax Policy Committee; EEI Past President

Statement before the House Ways and Means Committee, March 13, 1951

MY name is Charles E. Oakes, and I live at Allentown, Pa. I am appearing before this committee in connection with the proposed tax bill as it will apply to the electric utility companies of this country. I am President of Pennsylvania Power & Light Company, which serves a portion of Eastern Pennsylvania and which is wholly and directly owned by the general public.

I am also chairman of the Special Tax Policy Committee of the Edison Electric Institute. I am appearing before you today in that capacity to talk about excise taxes and other taxes that affect the electric utility companies. The Edison Electric Institute is a trade association representing 82 per cent of the taxpaying electric utility industry of this country.

EEI Suggestions

The Edison Electric Institute requests:

First — That you consider the very adverse effect upon the taxpaying electric utility companies of the suggested increase of the corporate income tax rate from 47 to 55 per cent.

Second — That you secure additional revenue for the Federal Government by applying the same tax burden on the customers of public bodies engaged in the electric power business as the customers of the taxpaying electric utilities now pay through their electric bills.

Seek No Special Consideration

We would like to make plain that our industry seeks no special consideration or preferential treatment apart from other industries in the matter of income tax rates. We appreciate the need of the Federal government for additional revenue. We also realize that this committee desires to distribute such additional taxes as may be required in as equitable a manner as possible, and so as to promote and not cripple the expansion of businesses.

Like all industry, the electric companies include taxes in the rates charged for their product, for they have no other source. Therefore, in the long run, taxes imposed directly on the electric companies become taxes on the consumers of electricity, and, therefore, I am speaking for our customers as well as for the companies.

Our taxes are not entirely Federal income taxes. I have prepared a chart (Chart 1) to show their composition.

The figures, like the others which I will give you, are the cents of the revenue dollar that are required to meet the tax bill. In 1950, the electric companies paid to the Federal government over twelve cents of each dollar received from the customer. Of this, ten cents was for Federal income taxes, and nearly two cents was the 3 1/3 per cent electrical energy excise tax.

Federal Income Tax

I would like first to talk about Federal income tax. This tax bears more heavily upon public utility companies than upon ordinary business, in that they require a larger proportion of the revenue dollar to meet the tax than does the general run of industries.

Chart 2 compares nineteen widely known companies with the electric industry. It can be seen from this chart

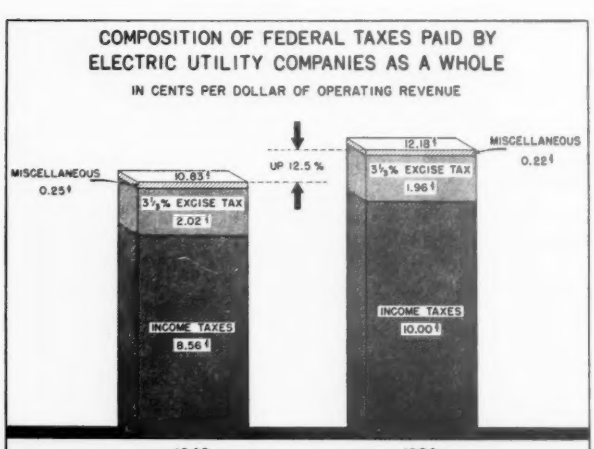


Chart 1

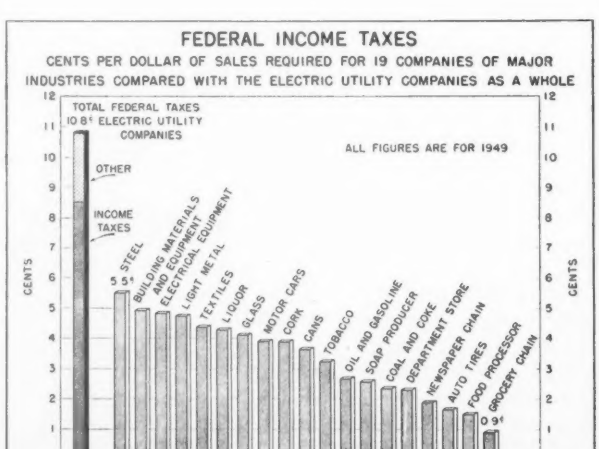


Chart 2

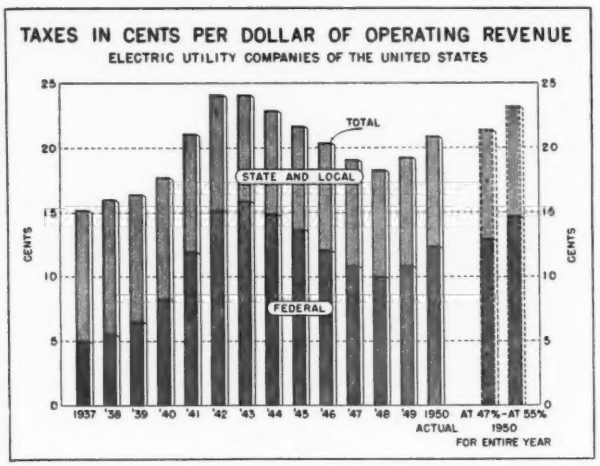

TAXES IN CENTS PER DOLLAR OF OPERATING REVENUE
ELECTRIC UTILITY COMPANIES OF THE UNITED STATES
TOTAL
STATE AND LOCAL
FEDERAL
CENTS
1937 '38 '39 '40 '41 '42 '43 '44 '45 '46 '47 '48 '49 1950 ACTUAL AT 47%-AT 55% 1950 FOR ENTIRE YEAR

Chart 3

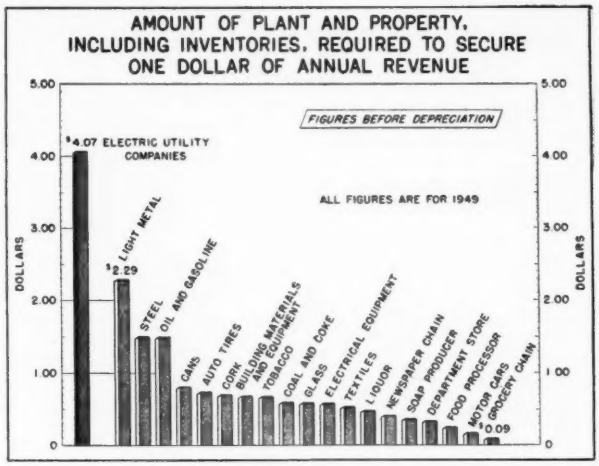


Chart 4

that an increase in the Federal income tax rate would be of far greater consequence to customers of the electric companies than to customers of the general run of business. Sooner or later all taxes from 38 per cent to 47 per cent, which occurred during the past year, imposed a burden on electric utility customers nine times as great as the customers of companies with rapid turnover, despite the fact that electricity is an essential item in the household today.

Moreover, the electric companies are regulated businesses. To obtain rate increases requires regulatory commission action, and this takes time. In the case of an ordinary business, passing on a tax increase to the customers is not as difficult or as lengthy a process.

Heavy Contributions to Public Revenues

The taxpaying electric companies have been heavy contributors to the public revenues, and I would like to show you the tax record of such companies during the past fourteen years.

Each stack in Chart 3 shows the proportion of the average dollar of operating revenue received by the electric utility companies for the sale of power which was paid out in taxes. The part on the bottom represents Federal taxes, the part on top represents state and local taxes.

I appreciate that this committee is concerned solely with Federal taxes but it should not be unmindful of the total tax load of the companies, and its effect upon their future existence.

Of course, the 1950 Federal taxes reflect the corporate income tax increase made during 1950 and applicable for a portion of that year. If the proposed 55 per cent had applied in 1950, our Federal tax bill would have taken nearly fifteen cents of each dollar of revenue. The excess profits tax may add something to this figure, but I do not know how much, and so have not shown its effect.

As soon as World War II fighting ended, the taxpaying electric utility companies embarked upon a fifteen billion dollar construction program to provide this country with an ample supply of electric power and energy. This program is being financed by private capital, of which a portion is debt, and the remainder is preferred and common stock. In order to attract new equity money, equity earnings must be maintained.

Many ordinary businesses can secure all their funds for expansion from retained revenues. But the electric utility companies cannot do this except to a very limited extent. I have prepared a chart to show why it is so (Chart 4).

The electric utility companies require on the average over four dollars of property for each one dollar of annual operating revenues. The non-utility companies require far less.

It may help you to appreciate our problem to know that the electric utility companies obtained over one and a quarter billion dollars of new money in 1950. This was over 27 per cent of all the new equity and debt financing by all the industries of the United States during that year. This proportion is far greater than would be indicated by the size of the electric utility industry, either in terms of investment or sales.

Of the new equity money raised in this country in 1950, about 60 per cent was raised by the regulated utilities, and 40 per cent of the total by electric companies.

Should a further increase in Federal taxes be made at this time, on top of the inflation which has taken place, the electric utility companies must pass it on immediately to our customers if we are to continue to attract the capital we are continually needing.

I know from personal experience in selling securities of my company that as income taxes are increased, the supply of new money tends to dry up. We expect the competition for new capital to be much stiffer in the future than it has been during the last few years.

Unfortunate Results of Delay

While I have every confidence that the regulatory commissions appreciate the situation and will be helpful, it may take lengthy proceedings, in many cases, to secure relief. With delay, the cost of the new money will go up. This, in turn, will be reflected in higher rates to customers in the future and thus may prove to be very expensive for the rate payers. If taxes are raised to too high a level the construction program might be halted for lack of funds. This would be a national disaster.

To summarize what I have just said about the corporate tax rate level to be established:

1. We believe that the present 47 per cent corporate tax rate is as high, or higher, than our industry can long endure without serious adverse results. We are gravely concerned about a further increase in the corporate tax rate, as we fear that it may prevent the electric utility companies obtaining, at reasonable rates,

the new money which they will need throughout the emergency.

2. If an increase in Federal taxes is absolutely necessary for the national safety, we believe that it should be in a form which could be passed on immediately to ultimate consumers. This would be the least costly method for the consumer, who in the end foots the bill.

The second subject that I want to discuss with you is the obtaining of additional tax revenue by extending the taxes now paid by the customers of taxpaying electric companies through the rates they pay for service, to the customers of electric utilities owned and operated by public bodies.

I have prepared a chart to show the untaxed field in the electric utility industry (Chart 5).

You will note that 20 per cent of the nation's electrical energy (exclusive of that produced by industrial plants for their own use) is generated by public bodies that are practically free of Federal taxes.

Tax-free Government Projects

These tax-free projects sell some power to the taxpaying electric companies, and the taxpaying electric companies sell power to municipalities and co-ops for resale. These public bodies pay substantially no Federal taxes.

We find that about 79 per cent of the electric energy sold to ultimate consumers is fully taxed by the Federal government, 5½ per cent is partly taxed and 15½ per cent is practically untaxed by Uncle Sam.

We have made a careful study of the operations of the public bodies owning and operating electric utility businesses, and find that under present conditions full tax equality with the electric utility companies would bring in $88,500,000 of new tax revenue to the Federal government. The amount will be much larger in the years to come, as Public Power has a gigantic construction program. Let me show you what it looks like today (Chart 6).

Federal Public Power Program

The program—in service, under construction, authorized and proposed—now totals 54,470,000 kilowatts of Federal and Federally-financed electric power, and is 6½ times the amount now in service. Recently I saw a tabulation by the Department of the Interior listing the plants in service, under construction and authorized from which it will market the electric power. There are 153 hydroelectric stations shown. These plants will have an ultimate capacity of over 22,000,000 kilowatts, and thus comprise about 40 per cent of the Federally-financed Public Power Program as it now stands. Yet these plants alone will generate nearly 100 billion kilowatthours in an average year. If the rest of the program has a similar output, the grand total would be in the order of 250 billion kilowatthours a year, which amount is equal to three-quarters of the national utility generation during 1950. I quote you these figures to show you the great scope of the tax-free power business of the future.

The exemption from Federal taxes possessed by public bodies engaged in the power business and enjoyed by their customers should be ended by the bill which this committee will prepare.

1. Because it would bring in badly needed tax revenues from a segment of our people which is not paying its full share of the cost of the Federal government.
2. Because the time to take the step is now. As Public Power grows in size, it will be increasingly difficult to make the change.

The third subject I wish to discuss is the 3 1/3 per cent electric energy excise tax. It is imposed upon domestic and commercial sales, and was originally levied on the customers. After a short time it was transferred to the electric utility companies. It has proven to be very difficult and expensive to administer, and produces very little net tax revenue for the Federal government.

Elimination of Excise Tax

Chart 1 shows that the 3 1/3 per cent excise tax takes about two cents of the average revenue dollar. We suggest that this tax, if retained, be also applied to electric service of Public Power bodies. We suggest a better solution would be its removal. It is deductible for Federal income tax purposes. If it were removed, one cent of the two cents would be paid as Federal income tax. A part of the remaining one cent is lost because of the deduction of the cost to the companies of administering the tax. With the tax eliminated, the resulting savings in cost would be subject to Federal taxes, and the net loss of tax revenue would be small. It could be recovered in the tax revisions which are about to be made.

(*Continued on page* 85)

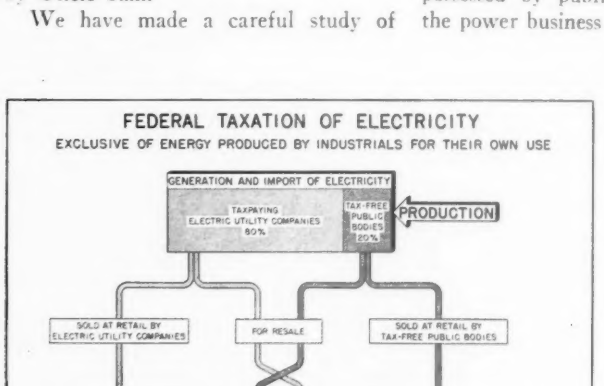

FEDERAL TAXATION OF ELECTRICITY
EXCLUSIVE OF ENERGY PRODUCED BY INDUSTRIALS FOR THEIR OWN USE
GENERATION AND IMPORT OF ELECTRICITY
TAXPAYING ELECTRIC UTILITY COMPANIES 80%
TAX-FREE PUBLIC BODIES 20%
PRODUCTION
SOLD AT RETAIL BY ELECTRIC UTILITY COMPANIES
FOR RESALE
SOLD AT RETAIL BY TAX-FREE PUBLIC BODIES
FULLY TAXED 79%
PARTLY TAXED ELECTRICITY 5½% (B) 2% (A)
NO FEDERAL TAX 15½%
SALES
ELECTRIC UTILITY COMPANIES 82½%
PUBLIC BODIES 17½%
SALES TO ULTIMATE CONSUMERS
(A) TAXED ON GENERATION AND TRANSMISSION ONLY
(B) TAXED ON DISTRIBUTION ONLY

Chart 5

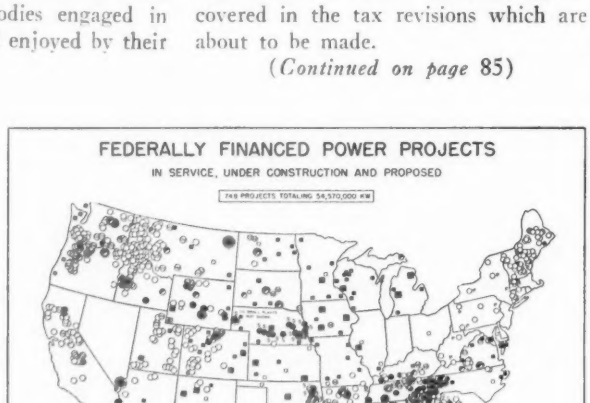


Chart 6

The Future—Whose Responsibility?

By Elmer L. Lindseth

President, The Cleveland Electric Illuminating Company

An address presented at the Personnel Conference, American Management Association, Chicago, Ill., February 26, 1951

THERE is almost universal agreement that America's most urgent need today is increased industrial production. Moreover, there seems to be general accord that the major available means of raising production are by increasing productivity — by obtaining greater output per man-hour from workers already on the job.

We all recognize, I think, the restraining factors which are handicapping industry in its efforts to win this particular battle of production.

Handicaps in the Battle of Production

The first of these is a widespread lack of understanding among our employees of the role individual productivity plays in industrial achievement, whether it be turning out goods and services for war or for a higher standard of living. This lack of understanding is the major obstacle we must overcome in order to lift industrial productivity to the level we are technologically prepared to attain.

Second, industry is short of qualified executives, now needed in greater numbers than ever before.

Third, we are up against a serious shortage of trained and capable supervisors.

Fourth, we do not have a labor force adequate to meet today's demands.

And fifth, we are only now awakening to the fact that a critical scarcity of engineers and scientists is looming on the industrial horizon — a deficiency which, if left uncorrected, will certainly arrest our future technological potential.

The Function of Personnel Directors

Each of these five problems is the functional responsibility of personnel executives. While top management is, of course, ultimately accountable for their solution, the primary work unmistakably must be done by industry's personnel specialists. If this is a broader concept of the personnel function than is sometimes recognized, then it behooves us to raise our sights to the full measure of the personnel job.

The five major personnel shortcomings of today must be licked. But taking care of the present is not enough. It's up to industrial management—including personnel directors—to take now whatever action is necessary to prevent a periodic recurrence of these difficulties ten or twenty years hence.

To do that, we must look for the cause behind our problems of the moment. We cannot claim to be discharging our responsibilities if we content ourselves with merely relieving the symptoms while leaving the root cause unaffected.

Are the personnel limitations of today the result of inadequate future planning ten and twenty years ago? I submit that they are. What's done is done. We can't turn back the clock, and we must make the best of our unwelcome heritage from the past.

But certainly there is a moral in all this. As members of business management, all of us have an inescapable duty to make sure that we apply the lessons of the present to our preparations for the future, and make those preparations now, despite the mounting pressure of our immediate duties.

Long-Range Planning

Let's examine what we are doing in this vital area of truly long-range personnel planning. What positive steps are we taking to eliminate the basic failures of the past? For example, what are we doing to help our employees of tomorrow understand the importance *to them* of high productivity?

Our employees, by and large, are the product of our schools. A large part of what they know, or think they know, about business principles dates back to the classroom. And for a good many years, the young people entering our companies have had an almost unbelievably distorted view of U. S. business and industry.

Opinion Research Corporation last March reported that:

(1) Seniors at a representative American high school estimated average company profits as "over 50 per cent" . . . average investment per worker in U. S. industry as $81 . . . average annual return to stockholders as 24 per cent.

(2) Asked which of a number of factors would "do most in the future to raise our standard of living," 48 per cent of seniors at another high school designated "more employee benefits." "Better machinery and manufacturing methods" got the vote of only 26 per cent.

Distorted Views

About six of every seven students end their formal education with high school and go out and get jobs at your company and mine. If, despite plant education programs, your company has found its present employees hesitant about cooperating for higher productivity, is it any wonder, considering the views they brought to work with them when they were hired?

Even the one high school graduate in seven who goes on to college does not, if he's typical, acquire a real understanding of the economic facts of life.

The Economic Facts of Life

In an Opinion Research survey three years ago, one college senior in five placed the average company's profit at 25 cents or more on each dollar of sales. One of every 25 seniors named 50 cents as the minimum profit figure. One in four said that most companies pay more money to their owners and top management than to their rank-and-file employees.

And only one of every two college seniors—53 per cent—expressed the belief that "the way for workers to improve their standard of living is by producing more." The others either couldn't make up their minds, or else came right out and said that the best method of raising living standards is to give employees "more of the money the company's already making!"

College and high school students alike

reach these startling conclusions simply because they do not have the facts. The teachers generally recognize this and are usually eager to correct the situation. Seventy-five per cent of high school and college social science instructors told Opinion Research four years ago that they felt business should make more of an effort to explain its operations and problems to them.

Necessity of Economic Education

Have we been doing this job the teachers have asked us to do? If we have not, certainly personnel executives have been failing in an area of opportunity which properly belongs to them, as the principal liaison between industry and education.

Yet in September, 1949, 48 per cent of a national cross-section of companies by their own admission were doing "nothing at all" to supply the schools with information.

Is it perhaps significant that in the same 1949 survey, 57 per cent of responding companies said that either "nothing at all" or "little, if anything" had been accomplished by industry's efforts at economic education of the general public? Is it also significant that today we find ourselves still seeking means of convincing our employees that the road to national security and a high standard of living is labeled "produce more," not "more employee benefits?"

Let's ask ourselves: Is *my* company—am *I* personally — actively cooperating with educators in their efforts to provide students with a factual conception of the principles on which U. S. business functions? Is *my* company—am *I* personally —preparing to do so in the future? Let's hope there are a lot more honest "yesses" to that second question than there can be to the first. We can't neglect our responsibility for long-range planning in the educational field and in others.

Why Are We Short of Executives?

What plans do we have for preventing a recurrence of the shortage of qualified industrial executives which is another of 1951's major problems? Are we spending all our time and energy trying to relieve the immediate situation? Or are we asking ourselves *why* we are short of executives, and doing everything we can to see that it doesn't happen again? Why did this shortage develop? Is it because ten or twenty years ago, top management was too busy with the problems of the moment to think sufficiently about the future?

There were national emergencies back in 1931 and 1941, too, and tough ones. The Great Depression and World War II made urgent demands on management. The future would have to take care of itself. Executive development programs, if they existed at all, fell victim, like other planning operations, to company economy drives during the early '30's and to military production urgencies during the early '40's.

There could have been no more costly "economy" and no slower way of "making haste." For executive development was critically needed even then. But did we even think about the problem twenty years ago?

Changes in the Old Order

The National Industrial Conference Board pointed out in its recent study, "Company Programs of Executive Development:"

"In the past it was said, 'When the president dies, we hire a new office boy. Everyone moves up . . . Honesty, sobriety and hard work are the qualities an ambitious employee needs to get ahead . . . Experience is the best teacher . . . Going to night school helps . . . The cream will rise to the top.'

" . . . Now, thoughtful businessmen are asking if the old system can be followed much longer with safety. Of course, character and ambition are still important in business and they always will be. So are the efforts made by the individual, both on and off the job, to improve himself. The question is: Are these things enough? Or have changes occurred in business and in society that call for a re-examination of our basic assumptions?"

It is pretty obvious that such changes have occurred. The penalty for our failure to change with them is the current scarcity of executives at a time when they are needed most.

Just five years ago the Conference Board studied 3498 companies and found that only 5.2 per cent of them had executive development programs. Only one company in twenty was making a formal effort to control the development of replacements for its aging officers!

It will take real long-term planning and effective action to correct this condition. Industry must first of all go out and recruit the high-potential young people upon whom it is dependent for future leadership; and we must do something with, and to, these bright young men after we get them.

A great many companies have scarcely scratched the surface of broad-scope executive development. Many, in fact, confuse the term with "job training"; others employ no more than two or three limited techniques which bear little resemblance to a balanced program. And I think we can agree that much improvement is possible even at those companies which truly understand the importance of the job and are attempting to give the executives of tomorrow a fundamental education in the social responsibilities, as well as professional requirements, of business leadership.

Attracting Potential Executives

The indispensable ingredients in any such program are, of course, "students" with executive potential. The important factors in our ability to attract and retain these essential raw materials are the salaries and other incentives we offer, not only at intermediate levels, but at the top as well. Many companies have too long neglected the issue of adequacy of executive salaries in a period of such rapid change, as the past two decades have produced, in the value of the executive payroll dollar, as in everything else. The American Management Association's current and continuing analysis of executive compensation can be very helpful in studying this situation, but the stimulus must come from individual companies.

Again let's ask ourselves: Is *my* company doing a thorough job in these related fields of executive development and executive compensation? What are we *personally* doing to improve the situation?

First-Level Supervisors

There is great need for long-range planning improvement, too, at other levels of the management scale, especially in the selection and training of first-level supervisors. We all recognize that first-level supervision has long been one of industry's weakest points. Now, with *quantity* an increasingly pressing problem, there is inevitably a tendency to aggravate the original failing by selecting still more supervisors with even less care.

Those companies which did not have sound foreman selection and training programs in operation ten and twenty years ago have already paid a high price in inadequate supervision and will continue to do so for a long time to come. It's not always easy to find and develop a good supervisor, but it's certainly a great deal easier than getting rid of a poor one.

Five years ago C. F. Mugridge pointed out that "many companies have a more careful system for selecting ordinary employees than for choosing management personnel." We might well ask ourselves: Do these words apply to *my* company today? What have *I* done, and what am *I* now doing, to make sure they do not?

Methods of Corrective Action

There is pretty general agreement as to the basic elements of proper corrective action. We know that selective screening for men of supervisory ability, as well as technical competence, is an important factor. A number of studies indicate that most foremen who fail do so because they can't handle people, rather than because they aren't sufficiently familiar with the work to be done.

We know, too, I think, that our first-level supervisors must be trained in economic principles as well as human relations. The typical foreman, who is, after all, management's major point of contact with rank-and-file employees, is too often painfully ignorant of business fundamentals. And we know that we must treat our foremen as important partners in the management process, which we are well agreed they are.

All of us acknowledge these things, but are we applying them at our companies? Obviously, something has been basically wrong with the long-term planning of any company whose foremen deny, as 31 per cent did recently in a national poll, that they are even members of management. Correction of such a situation requires more than emergency acceleration of the same old selection system—or lack of one.

Manpower Supply Dwindles

Industry's fourth major obstacle, shortage of manpower, also demands long-range planning attention. Are we treating the tight labor supply as a transient condition for which "emergency" rules will suffice? Or have we been honestly endeavoring to build a framework of employment practices which will see our companies adequately staffed for the long term?

All of us very likely are utilizing some manpower techniques born of necessity. Industry has sharply accelerated female recruiting and generally has relaxed its hiring standards. To get the workers they need, many companies are investigating "new" sources — groups previously barred by arbitrary requirements of physical condition, age and the like—and to make maximum use of the workers they now have, many companies are adopting for the first time such refinements as upgrading, comprehensive job training, and work simplification.

The real question, though, is this: Is a method which helps us through a critical period automatically to be discarded when the worst seems to be over? Or are we really doing a long-range job today? Are not maximum employment opportunity and maximum training and utilization of personnel *permanent* aims of industry rather than mere stand-by policies?

Physically Handicapped Workers

Take employment of the physically handicapped as an example. At present these people are being called upon to fill a great many jobs which too often normally are closed to them. We are heading into a recurrence of the situation during World War II, when, according to Secretary of Labor Maurice Tobin, 877,000 handicapped workers were recruited and placed in industry. These workers gave a good account of themselves in the war effort, and they will do so again.

But what happens to them between emergencies? In entirely too many cases, they are regarded simply as "duration" replacements for the able-bodied. A 1949 survey conducted by the U. S. Chamber of Commerce and the National Association of Manufacturers indicates that more than one-fourth of manufacturing companies and one-third of non-manufacturing companies normally do not employ the physically handicapped. Does this not reflect a lack of proper long-term planning? Is it not also a denial of social responsibility?

We have both a social and a business obligation, quickened by the prospect that the handicapped may grow in numbers in the years ahead, to give these people an opportunity to earn a good living in normal times as well as during crises. They need our help, and we need more employees with the splendid work record they generally have compiled in industry.

Planning will subject other "emergency" manpower practices to similar scrutiny. Is the man who's young enough to be hired by us today necessarily too old to be hired in relatively normal times? Is the training program which creates effective machinists when they're most needed not equally valuable in less critical circumstances? If we personally are not asking such questions at our companies now and making an effort to come up with some satisfactory answers, then our long-range planning performance needs improvement.

Deficiency of Engineers

What about the fifth conceded problem of 1951, the developing shortage of engineering and scientific talent for industry? Is there also a lesson in this which should be reflected in our long-range plans for the future?

As many of you are aware, the recent Engineers Joint Council report to the manpower director of the National Security Resources Board indicates that, even if the international situation gets no worse, the United States will have a deficiency of 40,000 engineering graduates by 1954.

In the past two years American industry has absorbed about 100,000 new graduate engineers, and in the past five years about 150,000. Yet even at this record five-year pace we have failed to keep step with the Russians, who in the same period have produced 150,000 master's-degree-level engineers and 350,000 technicians. Yet in the five years to come, Dean Hollister of Cornell has pointed out, our output of engineers will decline by one-third "unless drastic action is taken to increase the supply of engineering freshmen and to continue training operations in full force."

Vocational Guidance

By failing to participate in the vocational guidance activities of the high schools, did some of our companies contribute to the impending shortage of engineers? Are we confining our activities now simply to tightening up our engineering belts until adequate replacements again become available? Or are we doing something to forestall a continuance of the situation to 1960 or 1970, by intensifying our efforts to help

(*Continued on page* 93)

THE MOST COMFORTING ITEM IN THE HOUSEHOLD PRICE PICTURE

ELECTRICITY continues to be the most comforting item in the household price picture, as the nation's consumers once more feel the squeeze of inflation, which thus far has not been eased by the reimposition of Federal price controls.

It is difficult to see how credit can be properly claimed by Federal planners for the electricity price record. As the accompanying graph shows, the downward trend in the electricity index was established long before the government began its large-scale invasion of the power business in the 1930's. The consistency of this trend is in startling contrast to the erratic course and recent steep rise in the consumers' price index for all items.

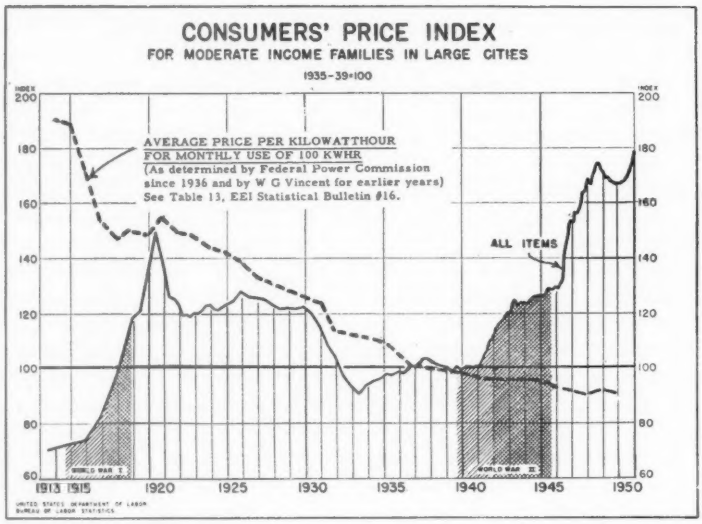
Reductions in the price of electricity for the home have come about because electric utility companies and manufacturers have made major technological advances, refinements in equipment and improvements in methods, and because the household customer, stimulated by promotional campaigns and new appliance development, is using an ever-increasing quantity of power. These achievements form the continuing record of electric industry progress. As basic economic contributions to the nation's way of life, they have no relation at all to the false "yardstick" of subsidized electricity rates, once so highly touted by Federal power advocates.

The record is even more remarkable when the great increase in family income and the declining value of the dollar are considered. Today, the dollar has less than one-third of the purchasing power it had at the beginning of the century. Yet the consumer's seriously depreciated 1951 dollar purchases over twice as much electricity as the far more valuable 1913 dollar did.

Today's consumer, with his growing supply of depreciating currency, finds that electricity represents only about 1 per cent of his cost of living. This economic miracle is a commonplace of electric company service, performed in the face of tremendously increased costs of everything needed to produce and deliver a kilowatthour of electricity.

The electric companies have had to make adjustments to meet these costs. In the past four years, 224 rate increases of various kinds have been granted to 139 electric utilities, and if conditions call for further rises, it is expected that regulatory authorities will give them proper consideration.

As the consumers' price index tables show, the rate adjustments have had little effect on the electricity index. While rising prices in other categories have sent indexes to new highs, the electricity index has eased its decline and leveled off. Electricity is the only known item having a net decrease from the 1935-1939 base line of 100.



While the curve for average electricity price in the graph above is based on monthly use of 100 kwhr, the curve pattern for users of other quantities is similar.

CONSUMERS' PRICE INDEX FOR MODERATE-INCOME FAMILIES
FOR LARGE CITIES COMBINED IN 1950
(1935–1939 Inclusive = 100)

15th Day of	*All Items*	*Electricity*	*Gas & Electricity*	*Other Fuels*	*Fuel, Elec. & Ref'g*
January	166.9	....	96.7	193.1	140.0
February	166.5	....	97.1	193.2	140.3
March	167.0	90.3	97.1	194.4	140.9
April	167.3	....	97.2	195.6	141.4
May	168.6	....	97.1	189.1	138.8
June	170.2	90.4	97.0	189.4	138.9
July	172.5	....	97.0	190.9	139.5
August	173.0	....	97.0	194.4	140.9
September	173.8	90.4	97.0	196.5	141.8
October	174.8	....	96.8	199.4	143.1
November	175.6	....	96.8	200.4	143.7
December	178.4	....	96.8	201.3	144.1
Year's Average	171.2	90.4	97.0	194.8	141.1

SOURCE: U. S. Bureau of Labor Statistics, U. S. Department of Labor.

Changes since pre-war days in these items have been as follows:

Date	*All Items*	*Electricity*	*Gas & Elec.*	*Other Fuels*	*Ice*	*Fuel, Elec. & Ref'g*
August 1939 (pre-war)	98.6	96.0	99.0	95.2	100.0	97.5
August 1945 (VJ-Day)	129.3	93.3	95.2	.....	.....	111.4
December 1946	153.3	88.9	92.0	.....	.....	115.5
December 1947	167.0	89.0	92.6	171.1	129.8	127.8
December 1948	171.4	90.0	95.3	191.3	138.4	137.8
December 1949	167.5	90.3	97.2	191.6	145.5	139.7
December 1950	178.4	90.4	96.8	201.3	152.1	144.1

Changes in the principal items which go to make up the so-called "Cost of Living" have been as follows:

Group	*Index Numbers*			*Per Cent Increase*
	Dec. 1950	*Dec. 1949*	*Aug. 1939*	*1950 Over 1939*
ALL ITEMS	178.4	167.5	98.6	80.9
Food	215.4	197.3	93.5	130.4
Apparel	196.4	185.8	100.3	95.8
Rent	125.8	122.2	104.3	20.6
Fuel, Elec. & Refrigeration	141.1	139.7	97.5	44.7
House Furnishings	204.8	185.4	100.6	103.6
Miscellaneous	162.0	155.5	100.4	61.4
Electricity	90.4	90.3	96.0	Dec. 5.9

NOTE: The Bureau of Labor Statistics is making a revision of the Consumers' Price Index (to include, among other things, baby foods, home permanent wave lotions and television sets). As this will change all 1950 figures, the above is printed as a matter of record.

What Vepco Employees Think of Their Information Program

Results of Survey Surprise Management

By W. E. Wood

Executive Vice President, Virginia Electric and Power Company

THE experimental program for informing Vepco's employees about the company's affairs and policies was described in some detail last June to the Edison Electric Institute's convention at Atlantic City in a talk entitled, "Your Employees Want to Help You." At that time, we had no reliable evidence as to how it was being received by our employees.

A One-Year Experiment

Realizing that management could never win its employees' confidence and cooperation by forcing them to listen unwillingly to information about the company's affairs and policies, nevertheless we felt it well worth while to experiment with this program for one year and then find out from our non-supervisory employees whether, after trial, a majority of them wanted it continued or discontinued.

More than *three years* were required for preparing our management group to take this information to the non-supervisory employees. As soon as we felt that management was prepared for the task, we imposed this program on these employees by requiring them to attend regularly scheduled bi-monthly Employee Information group meetings of two hours' duration. They accepted this requirement without complaint.

Questionnaire Surveys Reaction

After a year of these non-supervisory group meetings, Central Surveys, Inc., of Shenandoah, Iowa, was engaged to survey the reactions of these employees regarding this program. A questionnaire designed to accomplish this was developed.

This questionnaire was submitted first to the *supervisory employees* at their November, 1950, group meetings to obtain their observations, suggestions, criticisms and comments concerning the program and how it is being administered and received.

It was then submitted to the *non-supervisory employees* at their regular December, 1950, group meetings. The group leaders read to and discussed with these employees an outline, entitled "Employee Information Plan Opinion Survey," which explained why and how the survey was being made. The text of this outline is given in an appendix at the end of this article.

We urged them to tell us freely and frankly just what they thought about the program. To encourage them to do this, we promised them their answers would remain anonymous and that no one connected with the company would ever try to find out how any individual answered any particular question. We also promised to conform the program generally with the views and suggestions of the majority, even though this should mean its discontinuance. The questionnaire was then submitted to them.

Tabulation of Responses

Central Surveys, Inc., tabulated and summarized separately the responses to the questionnaire given by 3152 non-supervisory employees and those given by 582 supervisory employees. Officers of that organization together with officers of Vepco then interpreted the significance of these responses. Copies of these "summaries and interpretations" have been furnished the Industrial Relations Committee of Edison Electric Institute for distribution to any who may desire to see them.

The questionnaire contained three types of questions. There were 39, known as "check" questions, which the employees answered simply by checking one or more suggested answers. There were nine which requested the employees to write down their opinions, suggestions or criticisms of various phases of the program. These are known as "open-ended" questions. And there were three combination "check" and "open-ended" questions, thus making a total of 51 questions in all. Central Surveys, Inc., told us that, as a rule, relatively few employees take the trouble to write down their comments in response to "open-ended" questions, but that the comments of those few are usually quite revealing.

Interpretation of Answers

The company and Central Surveys, Inc., jointly have interpreted the significance of the responses given by the employees to the questionnaire. A summary of the answers given by the employees to each of the questions and a copy of this joint interpretation have been furnished to each employee. We have requested them to let us know if for any reason they may not agree with this joint interpretation.

The officers and staff felt from observation that many employees were quite interested in the program, but no one would dare predict that a majority of them wanted us to continue it. We were most agreeably surprised when we learned that it had received the warm approval of a vast majority of the non-supervisory employees.

The next to the last question in the questionnaire (Question 50) is as follows:

"In summing up my opinion, I think the Employee Information Program is:

Please check one

☐ Well worth continuing
☐ Not worth continuing
☐ Worth continuing if improved"

Program Wins Majority Vote

Sixty-two per cent of the non-supervisory employees say the program is "well worth continuing"; another 24 per cent say it is "worth continuing if improved"; while only 9 per cent say it is "not worth continuing." In view of our promise, we must continue the program. The meetings will continue to be held on company time, but future at-

tendance of non-supervisory employees will be placed entirely on a voluntary basis.

The purpose of the program was approved as heartily as the program itself. More than 82 per cent say that it is a company's duty to inform its employees about its affairs and policies, while 87 per cent express the belief that well-informed employees find their work more interesting. We believe that employees who feel that they will find their work more interesting if they are better informed, and who are seeking more information about their company's affairs and policies, will listen with interest to our philosophy and to sound and unadorned explanations of economic facts.

Appraisal of Company's Purpose

The first "open-ended" question asked was "Why do you think the company carries on these group meetings?" We were again surprised and gratified to learn that 90 per cent of the supervisory and 88 per cent of the non-supervisory employees actually took the trouble to write us their opinions of why the company was conducting the program. Of the non-supervisory employees who did this, 93 per cent gave constructive reasons, and only 7 per cent were critical. The comments, opinions, suggestions and criticisms given so frankly and spontaneously in response to this and the other "open-ended" questions were encouraging as well as revealing.

Dissenting Opinions

Between 5 and 7 per cent of the employees, both supervisory and non-supervisory, tell us frankly they "doubt the sincerity of management," "the program is not accomplishing its purpose," "the company only tells employees what it wants them to know," or "you cannot win employees' cooperation by words but only through the way the company treats them." Were it not for the fact that more than 80 per cent heartily approve the program, these comments would be discouraging. We have no doubt that many of these doubters will change their views when they learn that so large a majority of their fellow employees feel so differently.

Employees approved, generally, both the length and frequency of the group meetings. They suggest that more attention be given to explaining things in the meetings more clearly and more interestingly. However, only 10 per cent feel that "most of the time" things are not explained clearly, and 13 per cent that most of the meetings have been uninteresting.

(All meetings are divided roughly into three periods, as follows: (1) Current Events, (2) Outline, and (3) a Question, Answer, and Suggestion period. The Outline periods cover such subjects as: "The Company—Its Size, Service Area, etc."; "The Company Grapevine"; "Public Relations"; "Employee Relationships"; "Vepco's Organization — How It Operates and Why"; "Government-owned vs. Privately-owned Electric Systems"; "Rate Making"; "Employee Information Plan Opinion Survey"; "Vepco's Vital Part in Our Country's War Effort"; "The Company, Its Employees and the Community.")

Non-supervisory employees like the Question, Answer and Suggestion period best, the Current Events period next, and the Outline period least. Supervisors prefer Current Events, with Question, Answer and Suggestions next, and the Outline period last. This does not mean that they are uninterested in the philosophy on which the company's policies are based. Fifty-two per cent say that on the average the Outlines are "very interesting," while only 8 per cent say that on the average they are "not at all interesting." Twenty-nine per cent say "only fairly interesting," while 11 per cent give no answer. Philosophy is naturally a drier subject than current events, but we believe that the occasional injection of a certain amount of philosophy is necessary. From the comments and opinion given in the responses to the "open-ended" questions, it is evident that our employees have understood and approve much of this philosophy.

Questions Referred to Staff

Questions which the leaders cannot answer in the group meetings are sent to the appropriate staff members, who prepare answers. Seventeen per cent of the employees feel that "lots of times" these answers are not complete, while 9 per cent feel the staff members often given them "brush-off" answers. Some complicated questions can neither be answered adequately nor completely without giving and explaining a great deal of technical or historical background material related to the subject. In many instances, neither space nor time available permits this to be done. Perhaps this has contributed to the impression this minority has that there has been a lack of completeness or sincerity in the preparation of answers. We realize that some improvement is needed in answering questions which are sent to the staff.

Employees' answers indicate that the annual meetings of company officials with employees in the various districts have not been quite as interesting to the employees as other parts of the program. However, a majority of them say these meetings are "a fine thing," while only 7 per cent say that these meetings are "a waste of time." As a result of these responses, we are sure that in the future these meetings will be made much more useful and interesting.

Evaluation of Group Leaders

In response to an "open-ended" question concerning group leaders, all of whom are supervisors, employees made hundreds of suggestions, criticisms or comments which they believe will improve the leadership. However, in answer to the direct question, "How well have the leaders done in conducting these group meetings?" only 2 per cent of the non-supervisory employees and 1 per cent of the supervisors say they have done a "poor" job.

In answer to questions about the group leaders, a large majority praise them and show that they appreciate their efforts to make the program useful and interesting.

The operation of this somewhat comprehensive program naturally involves considerable work and personal inconvenience for everyone. Comments made by both supervisory and non-supervisory employees show that they are well aware of this. They have apparently compared this inconvenience with the benefits they receive from and their interest in the program. This is shown by the 85 per cent who say it is "worth continuing," despite the work and inconvenience involved.

Labor-Management Relations Improve

Discussion in this program of wages, hours or other conditions of employment is carefully avoided. Because of this, the unions have no objections to it. Among the thousands of comments made, the number which mentioned in any way union relationships was negligible. An improved and increasing understanding between management and labor has been quite evident during recent labor negotiations and grievance proceedings.

Responses to the questionnaire will result in many improvements in the pro-

gram. A number of excellent suggestions for making it more interesting have been made. Among other things, our employees say they want to participate more in discussions about the company's affairs and policies.

There are, among others, at least two corollary benefits which result, we believe, from the operation of this program. We have no positive proof, but it seems logical to assume that:

1. Well-informed employees who show such interest in the affairs and policies of their company will provide the public with a more courteous and efficient service.
2. Well-informed employees who, after examination and discussion, believe that their company's policies are fair and just, will exert a powerful influence toward gaining the public's good will and cooperation. Private enterprise needs such assistance from its employees to arrest the trend toward socialism.

Appendix: Outline of Vepco's Employee Information Plan Opinion Survey

The following outline, which describes the purpose and method of the Employee Information Plan Opinion Survey, was submitted to Vepco employees.

THE first Non-Supervisory Employee Information Group Meetings were held during October, 1949. We have now completed one full year of these meetings.

The company undertook this employee information program because it believed:

1. That employees would be interested in learning more about the affairs and problems of the company.
2. That the work of employees should become increasingly more interesting and more pleasant to them as they became better informed about the company's affairs, problems and policies.
3. That in the interest of improving its service, the management needed the views and suggestions of its employees about any and all phases of the company's business.
4. That the public, which pays our wages and other operating costs, provides a return for our investors, and is entitled to receive good electric service at reasonable rates, would benefit from a more interested and better informed employee organization.
5. That the company cannot furnish the best service at the lowest reasonable cost without the intelligent and sincere cooperation of all its employees and that this cooperation can only be obtained if the company has the confidence of its employees. It has been our hope that the Employee Information Plan would encourage such confidence.

The company has no desire to insist that its employees participate unwillingly in this program and, for this reason, now wants to find out whether or not, and to what extent, the employees are interested in it, what they like or do not like about it and, generally, their feelings about the program.

In order to find out about these things, the company has employed Central Surveys, Inc., of Shenandoah, Iowa, an independent and experienced firm of "opinion researchers" to supervise a survey of our employees' opinions about the plan and to tabulate the results.

A form, containing many questions about the plan and its operation, is being submitted to each of you today. Your answers to these questions will be summarized by the Central Surveys organization and the summary returned to the company. Central Surveys, Inc., will then assist us in interpreting this summary. The summary and interpretation of the results of the survey will be made known to all employees.

The same questionnaire is being submitted to all employees of the company, both supervisory and non-supervisory. Employees may devote the entire time of this meeting, if necessary, to answering the questionnaire. Do not sign it.

Each group leader should see that the employees in his group select two of the members of his group to collect the questionnaires as they are completed and place them in the large stamped envelopes, provided for that purpose and addressed to Central Surveys, Inc., Shenandoah, Iowa, and on leaving the meeting, put them in the U. S. mail. The group leaders should be careful not to see any of the answers. The purpose of this is to make sure that all the answers will be entirely secret.

No one connected with Vepco will ever see the questionnaires after they are filled in and mailed. No one connected with Vepco will ever know how any particular employee answered any particular question. The only information the company will receive will be the summaries of the answers to each question as tabulated by Central Surveys, Inc.

After the answers have been tabulated and interpreted, Vepco intends to make this Employee Information Program conform generally with the views and suggestions of a majority of its employees, even though this should mean that this particular plan would be discontinued.

If you, as an individual, will answer each question frankly and honestly by saying what you really think, without taking into consideration at all how you think the company would like to have the questions answered, you will be aiding both the company and its employees.

Proposed Tax Bill

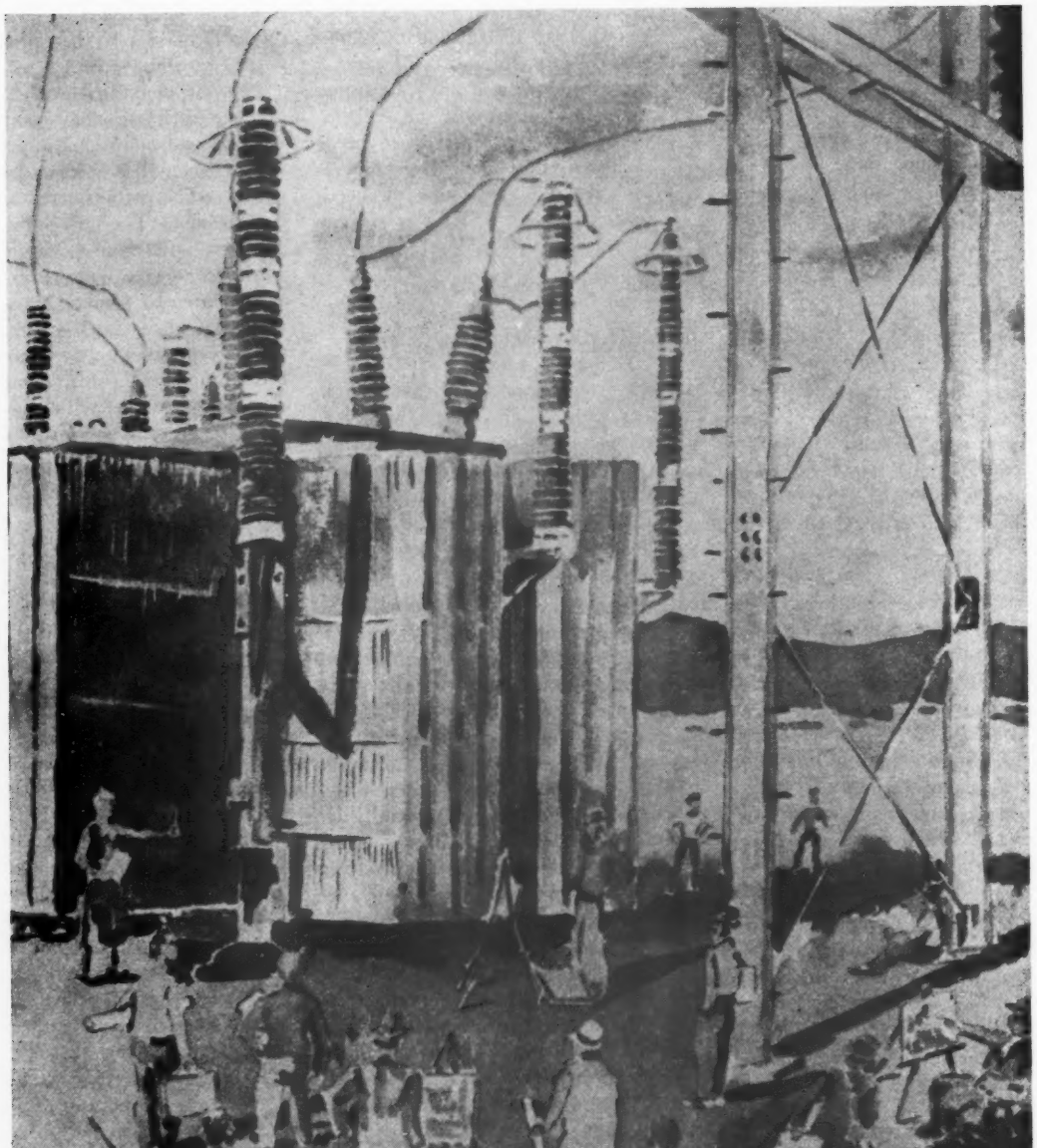
(*Continued from page* 78)

We believe that this is an appropriate time to change this non-productive tax.

In conclusion, I wish to say:

1. The electric utility companies do not wish to avoid their share of the Federal tax burden, nor do we want preferential treatment at the expense of anyone.
2. We urge you to consider carefully that the corporate income tax rate is already higher than it should be to conserve and promote the financial health of this country.
3. We request that any increase in Federal taxes on business be imposed in a form or in such a manner that it will be passed on to the customers without delay.
4. We suggest that you remove the tax exemption now enjoyed by public bodies engaged in the power business, and thus gain added tax revenues.
5. We ask that the non-productive 3 1/3 per cent electrical energy excise tax be changed.

I thank you for your attention.



"The Transformers" CLOYD M. CRISWELL

In this humorous little study, the artist records the visit of the Lehigh Art Alliance group to the Sunbury Power Plant on a September Sunday. Dwarfed by the giant transformers, a group of these artists are busy transforming industry into art, as slyly expressed in the title of this work.

"Portrait of Power"

Penn Power and Light Goes in for Art in a Big Way

THE Pennsylvania Power & Light Co. recently took part in an interesting innovation in industrial public relations when arrangements were concluded with the Lehigh Art Alliance, a local art group, for the painting of a "Portrait of Power." This was the first in a series of art-in-industry projects by the group aimed at creating a composite portrait of Central Eastern Pennsylvania's great and varied industrial strength.

On Sunday, September 24, 1950, Pennsylvania Power & Light held a special tour of its new Sunbury Steam Electric Station for the artists, and this largest anthracite-burning power plant in the world "sat" for its portrait. The 259-acre plant site is capable of being developed to ultimate capacity somewhat in excess of 700,000 kw. Plant employees acted as guides, conducting the artists through the plant, answering questions, and arranging for a picnic at a nearby park.

The artists were given access to the coal storage yards and railroad equipment, the switchyard and transformer area, and the interior of the plant, as well as the new units under construction as part of Pennsylvania Power & Light's $200-million postwar expansion program.

The result was a collection of ninety-nine compositions in oil, water color, pastel, and collage, interpreted according to the individual taste of the artist in a realistic, impressionistic, primitive, or abstract style. A wide range of emphasis and technique was apparent. Such a comparatively minor detail as an inspection door opening into one of the giant boilers was the subject of one painting; others pictured the sweep of the plant profile against the sky. Some presented a Grandma Moses-like impression of an industrial plant set in a picturesque countryside, while many employed an abstract approach to create a visual expression of the tremendous power inherent in a great industrial plant.

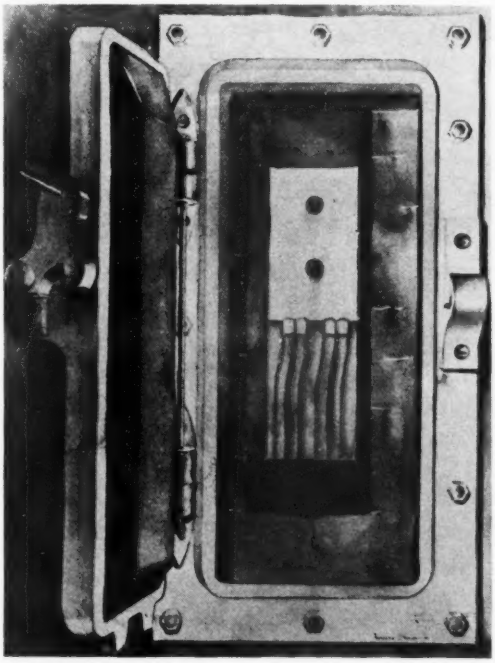
From November 19 to December 3, Pennsylvania Power & Light exhibited the paintings in their general office display room at Allentown to an audience of more than 4500, many of them from outside the company's service area. Howard Henry, assistant art director of N. W. Ayer and Son, Inc., a Philadelphia advertising agency, and Henri Marceau, associate director of the Philadelphia Museum of Art, were invited by the Alliance to judge the exhibit. They selected twenty-five compositions which "best caught the spirit, the magnitude and the wonder of Sunbury and had thus met the challenge of an industry sitting for its portrait."

Since the first of the year these twenty-five representative works have become the property of Pennsylvania Power & Light, forming a traveling art exhibit which has attracted audiences throughout the Central Eastern Pennsylvania region. The first showing was held at the state museum in Harrisburg. It has been displayed in the larger cities and towns under the joint sponsorship of Pennsylvania Power & Light and local art and service organizations or educational institutions.

The company has prepared illustrative material to accompany the exhibit, including a catalog of the works on display, which is distributed to audiences, libraries, schools, and other interested organizations. Posters, window displays, invitation forms, and suggested publicity releases complete the "package show." After the exhibition finishes its tour of the company's service area, it will be available for special showings in other locales.

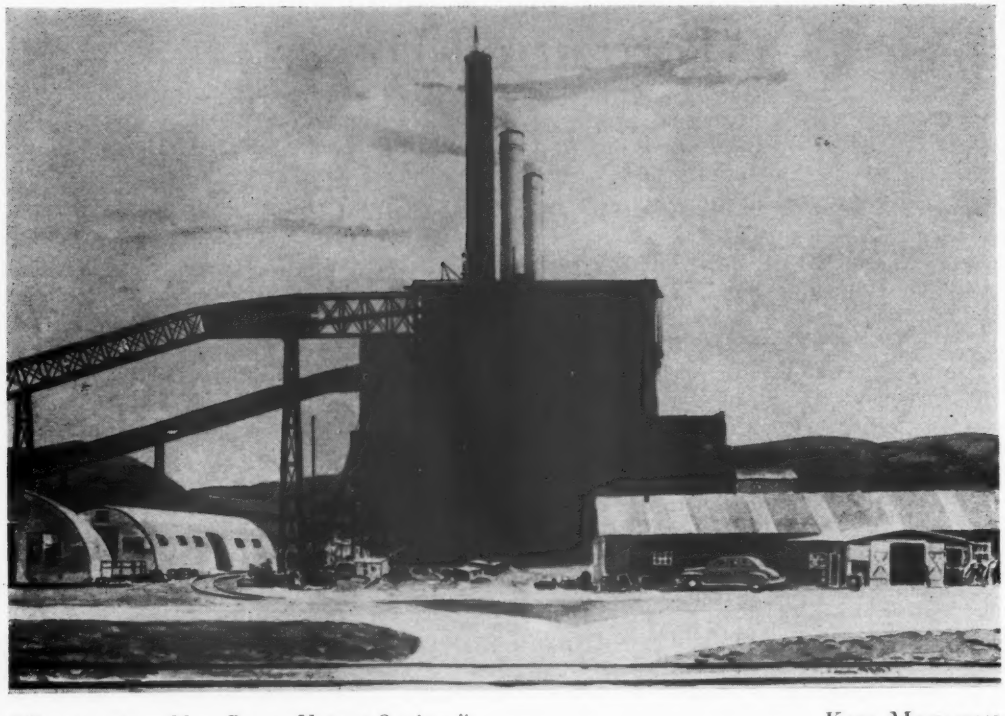
Pennsylvania Power & Light Company's pioneering effort in this particular phase of industrial public relations has prompted other Central Eastern Pennsylvania industries to follow its lead. Many have expressed interest in "sitting for their portrait" and the Lehigh Art Alliance plans a series of such art-in-industry projects.

(*Additional paintings on next page*)



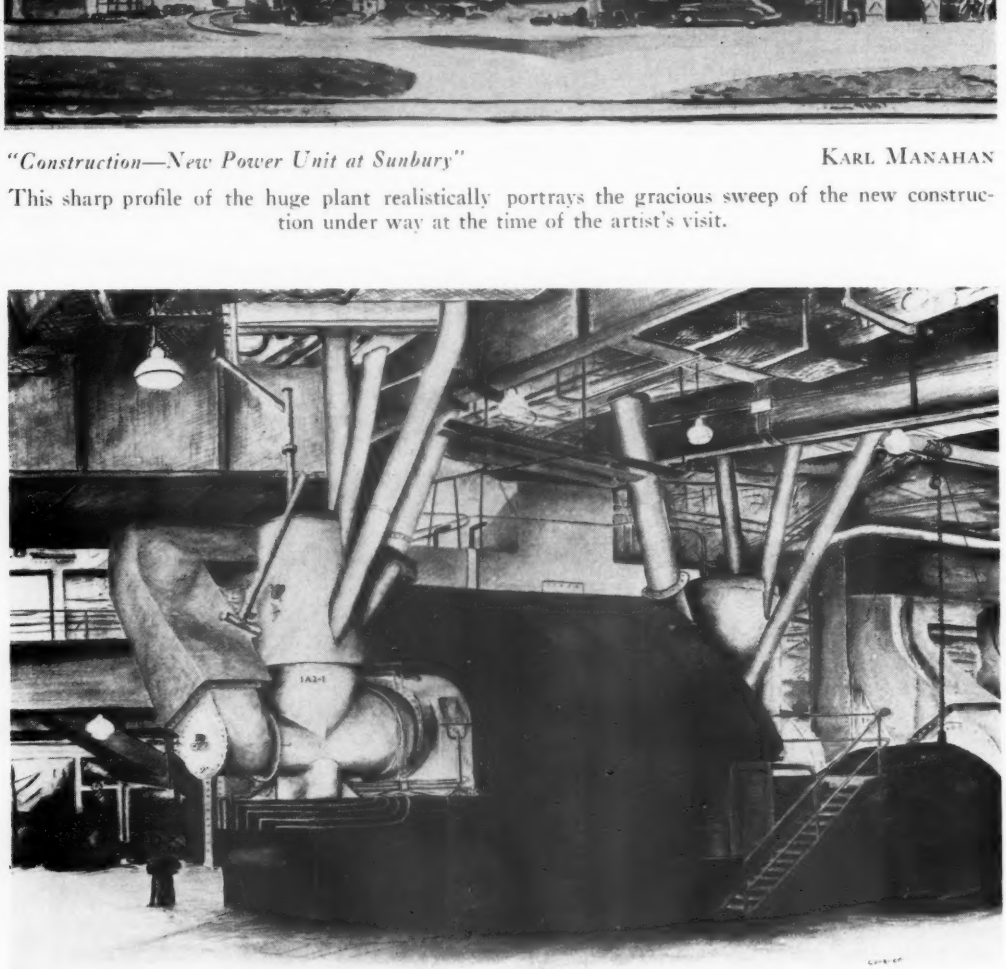
"2700° Fahrenheit" KENNETH J. BOGERT

This striking water color, painted full size, is a straight-forward, factual depiction of an inspection door opening into one of the giant boilers, attempting to express the beauty discovered in one small section of a great industrial operation.



"Construction—New Power Unit at Sunbury" KARL MANAHAN

This sharp profile of the huge plant realistically portrays the gracious sweep of the new construction under way at the time of the artist's visit.



"Portrait of a Pulverizer" GARRETT B. CONOVER

Compelling interest in this portrait centers on line, color, and pattern—and a feeling of natural flow of line and color contrast. The various areas and planes created a compositional effect that was natural to realistic development.

Electrical Equipment Committee Meeting

J. H. Foote, *Chairman*

THE Electrical Equipment Committee, with nearly eighty members and guests present, held its 53rd meeting at the Hotel Cleveland, Cleveland, Ohio, on February 12 and 13.

Closed Session

The major portion of the first day's session was devoted to the closed session discussion of apparatus troubles, system disturbances and other appropriate subjects of interest primarily to the committee members and utility company guests.

B. Van Ness informed committee members of the present status of bushing standardization. There is an interest in the utility industry in the standardization of bushings of the same voltage and current ratings for use in power transformers, oil circuit breakers, regulators, reactors and similar power equipment. At the present time there are various groups working on this subject. Mr. Van Ness reported on the work being done by AEIC - EEI - NEMA Joint Committee, Southeastern Electric Exchange, ASA, Doble Client Committee, and PFA. It was the sense of the meeting that it would be advantageous to effect correlation of these various activities through the appropriate ASA committees.

A. M. deBellis, chairman of the Apparatus Troubles Division, called the attention of the committee to the fact that the semi-annual trouble reports would be due in May, 1951.

Detailed reports of major cases of equipment and system trouble were presented by individual members. Some of these troubles were the result of the severe storm of last November which caused extensive damage in the East Coast area. After a round-table discussion of the causes and methods of prevention of the cases described, the closed session portion of the meeting was concluded.

Open Session

The remaining portion of the meeting was devoted to the open session, at which papers and discussion centered around subjects of general interest to members, guests, manufacturers and special representatives.

C. P. Corey presented a paper on Safety in System Operation, entitled "Operating Error Control," in which he discussed the operating error campaign that the New England Electric System has been conducting for the past four years. Mr. Corey pointed out that inattention to routine is the primary cause of operating errors in the industry and that, on the average, 85% of the errors are made by experienced men, the remaining 15% being made by new or inexperienced men. In a prepared discussion following Mr. Corey's paper, R. M. Pennypacker pointed out that proper selection, systematic training of personnel, continued refresher training on operating and safety practices, improvements to old stations, and attention to design of new installations were important features to follow in order to minimize operating errors by the station operator.

W. C. Bowen gave a progress report of the Storage Battery Subcommittee, whose last meeting was held in Philadelphia in October.

Inhibited Oil

C. L. Derrick reported on the problem of inhibited oil in circuit breakers. Mr. Derrick read letters from Westinghouse Electric Corp. and General Electric Co. which stated that these two manufacturers realize the existing problem for a common insulating oil for both circuit breakers and transformers. Since the transformer industry has decided to use inhibited oil, the manufacturers are conducting research in the use of such oil in circuit breakers. Both manufacturers felt that the final answer should include field experience and indicated that they would welcome any such data from operating companies which have experimented with inhibited oil in circuit breakers.

S. H. Mortensen said that the Allis-Chalmers Manufacturing Co. investigation of this subject has not progressed far enough to permit drawing conclusions as to whether any harmful or beneficial effects result from use of inhibited oil in circuit breakers.

R. M. Pennypacker gave a progress report on the use of inhibited oil in transformers. Various members of the committee disclosed what their companies have been doing in the past year with the reconditioning and inhibiting of transformer oil.

H. M. Jalonack informed the group that there is now, and will be in the future, a shortage of the inhibitor, DBPC. As a result of this shortage, General Electric is taking steps to terminate, for the time being, the use of DBPC in oil for new transformers and allied products.

Apparatus and Design

R. W. Wilbraham commented on progress of the Joint (Electrical Equipment—Prime Movers) Committee on Sleeve Versus Ball Bearings. He reported that NEMA had reviewed the request for the writing of a single industry-wide manual on the lubrication and maintenance of ball bearings and had concluded that such could not be undertaken, in view of the differing design practices of the various motor manufacturers. Mr. Wilbraham stated that the committee would request that the matter be re-examined.

J. S. Ambrose, representing W. F. Wetmore, gave a progress report on the Revision of Rotating Machinery Standard ASA C-50. At the last meeting of the Subcommittee on Synchronous Machinery, agreement was reached on all points with the exception of one, short circuit capabilities. The present wording is unsatisfactory to both the users and designers.

In an effort to develop a suitable specification for short circuit capabilities of synchronous machines, the manufacturers presented to the committee the results of their investigations on the subject. M. D. Ross of the Westinghouse Electric Corp., L. T. Rosenberg of Allis-Chalmers Manufacturing Co., and J. B. McClure of the General Electric Co. presented papers on this controversial question. There will be further discussion of this problem at the next meeting of the committee in Los Angeles in May with the operating companies reporting on their experience. The committee members were requested to review their operating experiences and to send their comments to W. F. Wetmore, who is chairman of the ASA-C50 Synchronous Machinery Sub-committee.

D. Q. Taylor reported on the work of the IES Committee on Lighting of Control Rooms.

H. M. Jalonack reported on the ASA Recommended Standards for Transformers. Mr. Jalonack gave the objectives of the subcommittee in preparing these standards:

1. To provide transformers embodying the features needed and desired by the majority of users.

2. To provide such standard transformers at the lowest possible cost commensurate with a thoroughly adequate product.
3. To factor fully the matters of flexibility, interchangeability, convenience of inspection and maintenance to the end that operating cost and first cost economics shall be correctly balanced.

In disclosing the committee's plans for the future, Mr. Jalonack said that there would be a meeting in March to review all suggestions and make decisions, and a meeting in June to review and approve the final draft.

"Proposed AIEE Guide for Operation and Maintenance of Dry-Type Transformers with Class B Insulation" was the subject of a report by J. A. Adams, presented to the committee by K. S. Garret. There was a need for this guide because of the fact that transformers of this type are relatively new and because they require somewhat different care than other types of transformers. The guide was made fairly comprehensive in order to make it as useful as possible to the greatest number of users. This guide was presented at the AIEE Winter General Meeting in New York on January 24, 1951, for comment and criticism, and no comment was received at that time (AIEE Paper 51-132). It is now planned to issue the guide for a trial period of one year before making it an approved guide.

Foreign Practice Division

W. R. Way reported on recent Canadian developments. The general power situation in all sections of Canada is good, with no important shortages of energy or peak power existing. The past year has seen an increase in hydroelectric generating capacity of 1,037,275 hp, bringing the total installed capacity of water power plants in Canada to 12,654,835 hp. The growth of electric energy production was about 10 per cent higher in 1950 than in 1949.

"Aspects of the Electricity Supply Industry of the USA," a report by Mr. H. S. Petch, was summarized by J. H. Foote.

System Planning

F. Von Voigtlander presented a paper on "Development of State-Wide Power System of Consumers Power Company." Mr. Von Voigtlander pointed out that several unique features have resulted from the extensive and widely dispersed nature of the Consumer Power Co. system. He traced the growth of the company through its early stages and described the steam electric development, the power supply to major load centers, and the interconnections with neighboring utilities.

"Protective Relaying for Twenty-one Generating Units Placed in Service in 1948 through 1950 on Thirteen Systems" was the title of a paper by G. B. Miller and R. S. Smithley, which was presented by Mr. Smithley. The systems described are located within or in states adjacent to the borders of Pennsylvania.

Activities Report of the Joint Research Committee on Boiler Feedwater Studies

By S. F. Whirl, *Chairman*

DURING 1950 the activities of the Joint Research Committee were concerned with sponsorship of technical papers at various society meetings, further organization of subcommittee personnel, review and evaluation of research problems facing the industry, and preliminary steps in the inauguration of a specific research program dealing with fundamental corrosion studies.

At the Midwest Power Conference in Chicago in April, a program was co-sponsored which consisted of five papers, comprising a symposium on magnetic iron oxide deposits in boilers. In June at the Semi-Annual ASME Meeting in St. Louis, two papers were presented, one dealing with the removal of copper from boilers, the other with phosphoric acid cleaning of boilers.

Two sessions were co-sponsored at the Annual Water Conference in Pittsburgh in October at which four papers were presented, dealing with "High-Pressure Boiler Feedwater Treatment, Evaporation vs. Demineralizing and Silica Removal"; "Evaporator Purity as Related to Station Design"; "The Sampling of Steam for the Determination of Purity"; and "Economic Comparison of Methods of Control of Carbon Dioxide in Steam Condensate."

Three papers, "Simplified Process for Determining Steam Purity," "The Prevention of Embrittlement Cracking," and "The Solubility of Quartz and Some Other Substances in Superheated Steam at High Pressures," were presented at the co-sponsored session at the Annual ASME Meeting in New York.

The officers and subcommittee chairmen met independently twice during the year: in St. Louis in June during the Semi-Annual ASME Meeting and in Pittsburgh during the Annual Water Conference in October. The entire Joint Research Committee met in December during the Annual ASME Meeting; following this meeting the subcommittees met independently to discuss their particular problems. Reports of these meetings were prepared for attachment to the minutes.

Of particular significance was the formation of a Papers Committee comprised of officers and subcommittee chairmen. With the aid of the entire committee, this Papers Committee will solicit, review and recommend papers for presentation and publication.

During the year, the three subcommittees have been quite active. The Subcommittee on Deposits, under the chairmanship of R. C. Bardwell, has assisted in planning and developing a symposium on organic treatment for the 1951 Midwest Power Conference in Chicago in April. The Subcommittee on Steam Contamination, with W. L. Webb as chairman, is organizing a symposium on steam contamination to consist of two full sessions at the 1951 Annual ASME Meeting in Atlantic City.

In addition, this subcommittee is actively pressing an investigation of steam sampling. Dr. J. W. Ryznar's Subcommittee on Corrosion is sponsoring a session at the N.A.C.E. meeting in March, 1951, in New York, which will consist of three papers dealing with "The Prevention of Standby Corrosion in Power Plants," "Iron Oxide on Water Side of Tubes in a Cyclone-Fired, Pressurized Steam Generator," and "Prevention of Corrosion and Metal Attack in the Steam Water Cycle of the Steam Power Plant." This subcommittee is also planning a comprehensive symposium of several days' duration on corrosion for 1952, the exact date and place not yet being established. A proposal for research dealing with fundamental corrosion studies has been drafted by this subcommittee, and it is hoped that an active research program will soon be started.

Transmission and Distribution Committee Meeting

J. E. McCormack, *Chairman*

THE Winter Meeting of the Transmission and Distribution Committee was held on February 15 and 16 at the Atlanta-Biltmore Hotel with 140 members and guests in attendance.

Standards and Specifications

Activities of the Standards and Specifications Group, sponsored by W. E. Losie, were reviewed by subcommittee chairmen.

F. A. Ashbaugh reported that TD-91, "Specifications for Dense Southern Pine Crossarms, Preservative Treated," has been published. Continued progress is being made on proposed specifications for heavy duty Douglas fir crossarms, Douglas fir braces, and full length non-pressure treatment of poles.

R. M. Havourd stated that proposed EEI-NEMA standards for suspension, spool, strain, high-voltage pin, and high-voltage post insulators now are about completed. Another proposed specification covering low and medium-voltage pin insulators soon will be sent to members for ballot.

E. K. Karcher announced that TD-13, "Specifications for Guy Thimbles," and TD-16, "Line Hardware Materials Inspection Procedure," have been published. A specification for guy hooks and strain plates and a revision of TD-3, "Specifications for Lag Screws," soon will be released for printing. Proposed specifications for pole top pins and guy clamps are about ready to be sent to members for ballot.

W. L. Vest, Jr., reported that members cast a favorable ballot on proposed EEI-NEMA standards for distribution fuse links.

A report from R. J. Palmer stated that the following EEI-NEMA standards for street lighting equipment have been published:

TDJ-131	Filament Lamps
TDJ-132	Photometric Tests for Luminaires
TDJ-133	Voltage Classification of Luminaires
TDJ-134	Pendant Luminaire Mounting
TDJ-136	Series Sockets and Series-Socket Receptacles

Work is continuing on drafts of other proposed standards covering poles, luminaire supports, open reflector mountings, film cutouts, head and reflector interchangeability and materials, finishes, and quality tests.

Underground Group

The Underground Group, sponsored by W. M. Penney, featured a panel discussion comparing practices on normally wet and normally dry underground systems. L. W. Clark, M. W. Ghen, D. C. Hawley, J. F. Hennessy, L. L. Newman, J. P. Neubauer, J. A. Pulsford, and C. L. Schmalmaack participated in the discussion which was led by P. B. Boyd. Most operators of normally dry conduit systems try to keep them dry through extensive use of sewer drains, backwater traps, and sump pumps, while most operators of normally wet systems do not make special effort to keep them dry. All indicated that they pressure test primary cable joints, and some test all joints. The majority use 15 pounds of nitrogen, and all agreed that the resulting reduction in joint failures justifies testing. All pressure test transformers and network protectors initially, and most make periodic tests in the field.

A. Bodicky presented a paper reviewing experience with water cooling of cables and network transformers in St. Louis. Nine years experience with water cooling of ten overloaded 350 mcm, 33 kv cables has indicated that the substantial reduction in the failure rate more than offsets the cost of cooling. Three years experience with water spray cooling of network transformers also indicates that the saving of additional capacity which would be required without the cooling more than offsets the cost of cooling. Troubles created by the use of water cooling have not been serious to date.

J. A. Pulsford presented a preliminary report on a-c network operations for 1947-1949, inclusive. The final report will soon be ready for publication.

General Engineering Group

The General Engineering Group, sponsored by J. W. Anderson, featured discussion of the November 25 storm along the Atlantic seaboard. J. E. McCormack, W. O. Smith, G. E. Dean, W. A. Upham, J. G. Charest, and W. H. Wade described storm damage to their systems and the effectiveness of restoration plans. This was the worst storm ever experienced on many systems in terms of storm duration, percentage of systems affected, and number of customer outages. There was general agreement on the importance of well-detailed plans for restoration, the value of mobile radio, the advantages of coordination and cooperation between power and telephone companies, the importance of rigidly maintaining safe work procedures, and the need for an executive buffer against pressure for preferential treatment of influential customers.

H. E. Moore, C. E. Bathe, and J. P. Neubauer specifically discussed the handling of trouble calls during emergencies, giving details of personnel and communication facilities for receiving calls; methods of classifying, sorting, and routing information; and means of dispatching crews to perform restoration.

W. C. Phillips outlined recent developments in matters pertaining to mobile radio and carrier. The National Committee for Utility Radio has recommended that, in discussing coordinated plans with defense authorities, utilities should forcefully point out that they will require the fullest use of their radio facilities in performing their own restoration work and that no plans should contemplate the use of such systems for general civilian defense purposes. The NCUR also has recommended that the Federal Communications Commission provide for the establishment of emergency radio facilities in the 72-76 mc band between normally interconnected utilities.

Safe Design, Construction and Operation

The session on safe design, construction, and operation, sponsored by L. G. Smith, consisted of a panel discussion on the safe plant led by J. F. Hennessy. J. W. Anderson, W. R. Bullard, J. G. Charest, G. E. Dean, G. H. Fiedler, R. M. Grogran, H. L. Livingood, W. E. Losie, and W. M. Penney participated. A review of pole inspection practices revealed wide differences among companies, with some inspecting all poles as often as every two years. The importance of ground line inspection before climbing was emphasized. Routine line inspection practices also vary widely. Some companies maintain a routine inspection of transformers, while others

inspect them only when they are moved.

A discussion of the relative safety of delta, ungrounded wye, and multi-grounded wye systems indicated no significant differences in accident experience among the three. However, the importance of training men for the particular type of system upon which they will work, avoiding their transfer back and forth between different types of systems, was stressed.

Discussion of the relative merits of grounded and ungrounded transformer tanks showed that the majority favor grounding, despite an approximately even division in existing practice. It was noted that many linemen insist that grounded tanks increase hazards but that this probably reflects experience of the older linemen trained on chestnut poles having comparatively high insulating properties. Treated pine poles in current use do not possess the same insulating qualities and may provide only a false sense of security.

Overhead Group

The Overhead Group, sponsored by G. H. Fiedler, featured a series of presentations on the fundamentals involved in establishing joint use agreements. J. W. Davis of the Southern Bell Telephone Company suggested that different rental rates for each company derived from the ratio of the average costs of separate lines probably represents the most equitable means of prorating the cost of joint lines. T. J. Brosnan and G. E. Dean favored the simplicity and stability of a joint ownership arrangement with each party having half-interest in all poles. W. R. Doar stressed the need for full consideration of the power companies' increased maintenance and operating costs in evaluating costs of joint use. J. E. McCormack described the "share the savings" agreement now in effect in the New York City area. C. E. Bathe re-emphasized the added maintenance and operating costs to the power company and pointed out the inequity of sharing savings equally, as proposed by some telephone companies. M. H. Powell and H. MacVaugh described joint use agreements in their areas which are based on rentals reflecting half the annual charges of the joint line.

J. B. Hodtum of Allis-Chalmers, C. E. Sutton, Jr., of General Electric, and R. D. Rung of Westinghouse announced that due to the impending shortage of DBPC inhibitor, their companies will discontinue the use of DBPC inhibited oil in all transformers as soon as current stocks of this oil are exhausted.

Round Table Discussion

The entire afternoon of the second day was devoted to round table discussion of specific problems.

Although ACSR conductors have been used extensively in recent years for transmission lines and long span rural lines, several companies reported that the increasing price differential between aluminum and copper has caused them to begin using ACSR and all-aluminum conductors for urban primaries and in some cases to a considerable extent for secondaries and services. Increased use of aluminum is anticipated as a result of copper shortages. Difficulties with connectors for aluminum and in deadending aluminum services were discussed. It was also noted that inclusion of labor and connector costs make over-all costs of aluminum and copper services comparable.

The majority of companies represented indicated that they apply group replacement of street lamps.

J. G. Charest reported on an unusual joint occupancy problem in an area so located geographically as to be shielded from television transmitting stations by surrounding mountains. A high-gain receiving antenna is installed atop a mountain and booster amplifiers and a coaxial distribution system are run to individual customers' receivers. The cable is installed on power and television poles which necessitated establishment of special joint use agreements and specifications.

Several members described various means of coping with deteriorating weatherproof braid. Stripping machines, tape, vinylite tubing, and an experimental device to put on a rubber-like compound have been used.

Fourth Annual Seminar in Public Utility Safety

TWENTY utility company representatives from United States and Latin American companies were in attendance at the fourth annual seminar in Public Utility Safety recently completed in New York, March 2. The seminar, conducted jointly by Ebasco Services, Inc., and New York University, was the fourth of the series arranged by the two institutions.

This year's group was the most enthusiastic of the series, according to W. T. Rogers, Ebasco Safety Consultant and Chairman of the EEI Accident Prevention Committee, who acted as director of the seminar. He said that although the series was planned as a course for safety directors, the most recent one turned out to be a training course for supervisory and executive personnel. This is exactly as it should be, he declared, "because safety is definitely the responsibility of the line operating organization." This year's group included eight safety men and twelve operating men—chief engineers, division managers, and division superintendents.

"Safety takes on added importance today, when we are faced with the accelerated mobilization of manpower for defense," Mr. Rogers said. "As this mobilization gets into full swing the country will be hard pressed to furnish enough manpower for the armed services, for the war industries, and to keep the domestic economy going. The man-hours lost as a result of accidents in industry would provide the equivalent of 706,000 workers."

He stressed the importance of management's part in carrying out, as well as setting up, a good safety program. He said that after being convinced of the importance of such a program, management must select the right men for the assignment, give them the proper tools and then continue to check on progress made.

Courses in the seminar included Effective Speaking; Safety Training; Effective Relations, a course in practical psychology to give down-to-earth suggestions for dealing effectively with people at all levels; Formula for Supervision, which deals with the basic requirements of good supervision and good supervisors; Safety Programs in Public Utilities; Motor Vehicle Safety, a study of problems relating to motor vehicle safety supervision; and Fire Prevention and Protection.

Sales Conference

(*Continued from page* 70)

Co. Lastly the Dealer Coordination Committee members will present "Elements of a Successful Program."

Home Service Conference

The Home Service Conference, which is scheduled for Monday, April 2, will convene at 10:00 a. m. with Mrs. M. Dygert, Chairman of the Home Service Committee and Home Service Director of The Detroit Edison Co., Detroit, Mich., presiding.

Delegates will hear an address by Miss F. Armin, Director of Consumer Education, National Adequate Wiring Bureau, New York, N. Y., on "Utilization of Electric Service"; by Miss E. Ahern, Home Laundry Consultant of the Frigidaire Division of General Motors Corp., Dayton, Ohio, on "Soaps and Detergents for Electric Washers"; and by E. Hart, Executive Secretary-Treasurer of the National Red Cherry Institute, Chicago, Ill., on "National Contests." Miss M. Fahsbender, Director of Residential Lighting, the Westinghouse Electric Corp., Bloomfield, N. J., will then discuss "Contemporary Light for Modern and Traditional Interiors."

The first speaker at the afternoon session, convening at 2:15 p. m., will be E. H. Gardiner, Jr., Manager of Residential and Commercial Sales, Texas Power and Light Co., Dallas, Tex., who will speak on "Selling Lighting Through Conversion." He will be followed by Mrs. F. Sanderson, Chairman of the Home Economics Department, Wayne University, Detroit, Mich., who will deliver an address entitled "Easy Does It."

Concluding the Home Service Conference will be talks on "Home Service Plays an Important Part in Successful Dealer Programs" by Miss V. Thorsen, Home Service Director of the Northern States Power Co., Minneapolis, Minn.; Miss E. Hansen, Home Service Director of the Utah Power and Light Co., Salt Lake City, Utah; and Miss E. Moore, Home Service Director of the Oklahoma Gas and Electric Co., Oklahoma City, Okla.

The Home Service breakfast will be held the following morning, Tuesday, April 3. At that time, D. A. Packard, Household Appliances Sales Manager of the Kelvinator Corp., Detroit, Mich., will talk on "Home Service and Appliance Merchandising."

The Future—Whose Responsibility?

(*Continued from page* 81)

recruit engineering freshmen from high school graduating classes? As a matter of fact, do our personal executives even recognize such activities as their function and duty?

It is absolutely necessary, in this national emergency, that all of us fully measure up to the immediate requirements of our job. That is our first responsibility. If we fail in this, we can't be expected to succeed in any other.

And the task of the moment is a tremendous one. These words of Peter Drucker indicate its proportions, and the extent to which personnel considerations are involved:

"In the last war the great achievement of American management lay in the technical field: the management of things. This time our 'production miracle' will have to be based on the leadership of men."

But personnel executives, like the rest of industrial management, cannot forget, in the exigencies of the present, that they also have an inescapable duty to plan for the future.

If this duty had been properly discharged in the past, industry might not now be called upon to achieve higher productivity in an environment of today's personnel shortages—shortages of labor-management understanding, capable executives, qualified supervisors, manpower, and engineering replacements. It is up to all of us to make sure that the primary shortage behind all of these, shortage of proper long-range planning, can never be charged to us by future business generations.

The future, no less than the present, is *our* responsibility, the responsibility of business management. It is our challenge and our opportunity. The future of American industry and of the American nation, in a very real sense, will be what we make it.

Joint Conference on Operation of Public Utility Motor Vehicles

THE Tenth Joint Conference on Operation of Public Utility Motor Vehicles, sponsored jointly by the EEI Transportation Committee and the AGA Motor Vehicle Committee, will be held at the Peabody Hotel, Memphis, Tenn., April 16-18.

Interesting and informative papers will be presented on the following subjects:

"Saving Man Hours with Construction Equipment," by H. W. Richardson, editor, *Construction Methods and Equipment,* McGraw-Hill Publishing Co.

"LP-Gas for Motor Fuel," by F. E. Selim, Philgas Division, Phillips Petroleum Corp.

"Leasing vs. Company Ownership Motor Vehicle Fleet," by S. J. Lee, president, Fleet Management Corp. and H. L. Willet, Jr., vice president, Willet and Co.

"Wheel Alignment and Its Importance in Fleet Operation," by Ruel Logan, Weaver Manufacturing Co.

"Application of Fuels and Lubricants in Utility Fleet Operation," by W. A. Howe, Gulf Oil Corp.

"Two-Way Radio Problems Important to Fleet Operation," by W. C. Baylis, Niagara Mohawk Power Corp.

"Driver Manual," a subcommittee report by E. W. Jahn, Consolidated Gas Electric Light and Power Co.

There will be opportunity for discussion following each of these presentations.

In addition, several sessions of round table discussion will be interspersed in the program to cover some fifty subjects that have been received from the members of both committees. Twentyfive of the subjects have been assigned to committee members who will start the discussion of the topic with a short prepared statement, as a means of developing the question. A list of these round table discussion topics is included in the program which has recently been mailed to all member companies, so that all in attendance will have ample time to review the various subjects to be discussed.

PERSONALS

J. W. McAFEE, president of Union Electric Co. of Missouri since 1941, has been appointed president of Electric Energy, Inc., a corporation newly formed by five utilities to serve the needs of the Atomic Energy Commission's projected plant at Paducah. TURNER WHITE, JR., Union Electric's superintendent of construction, will act as executive vice president of the new company. EDGAR H. DIXON, president of Middle South Utilities, Inc., and E. J. SHAPIRO, of Union Electric, have been named respectively secretary-treasurer and assistant treasurer of the corporation.

Mr. McAfee is a past president of the Association of Edison Illuminating Companies. A lawyer, he served as a circuit judge from 1934 to 1937 and then joined the firm of Igoe, Carroll, Keefe and McAfee, counsel for Union Electric.

Mr. White will be the operating head of Electric Energy, Inc. Service with the Los Angeles Department of Water and Power and the Texas Co. preceded his association with Union Electric in 1930 as construction supervisor. Shortly after entering the company, he became superintendent of the Osage power plant at Bagnell Dam. In 1945 he assumed the duties of system superintendent of hydroelectric plants and since 1947 he has been construction superintendent.

Mr. White will be assisted by an operating committee headed by R. E. MOODY, executive vice president of Union Electric. Committee members include ALLEN VAN WYCK, president of Illinois Power Co., and MARSHALL S. LUTHRINGER, president of Central Illinois Public Service Co.

AUSTIN D. BARNEY, president of The Hartford Electric Light Co. and The Connecticut Power Co., has been elected a trustee of the Western Massachusetts Co.

Mr. Barney is also a director of several Connecticut financial and manufacturing companies and a former member of the EEI Board of Directors.

PAUL G. DINGLEDY, assistant to the president of the Pennsylvania Power Co., has been elected a director of the company.

MR. MCAFEE

Mr. Dingledy has been associated with the Pennsylvania Power Co. and its affiliates during his entire business career. Following graduation from the University of Illinois in general engineering in 1925, he became a test engineer at the Toronto, Ohio, power plant of the Pennsylvania-Ohio Power and Light Co., a predecessor of the Ohio Edison Co.

In 1926 Mr. Dingledy joined the Greenville division of Pennsylvania Power as a lighting engineer. Two years later he returned to the University of Illinois for graduate work in economics, receiving a master's degree in 1929. He then joined the power sales staff of the Pennsylvania-Ohio Power and Light Co. at Youngstown, specializing in industrial applications of electricity. He was appointed assistant to the president in 1950.

Mr. Dingledy has been particularly active for a number of years in the Pennsylvania Electric Association, and is presently serving as chairman of its Business Development Section.

ROBERT P. BRIGGS has been elected a vice president and director of Consumers Power Co., and JOHN W. KLUBERG has been elected comptroller. Mr. Briggs, formerly vice president of the University of Michigan, received his master's degree in business administration from the university in 1928 and has held associate professorships in both economics and accounting. Since 1933 he has been a certified public accountant in Michigan, and he has been an active member and officer of numerous accounting associations.

Mr. Kluberg, who succeeds the late H. B. HARDWICK, is a graduate of the University of Illinois. In 1937 he joined the Arthur Andersen Co., an accounting firm, and in 1946 was transferred to Detroit where he worked on Consumers Power Co. audits. He is a member of several accounting associations and holds certified public accountant certificates in both Michigan and Illinois.

C. EARL LAKIN has been elected vice president in charge of gas operations of The Dayton Power and Light Co.

Formerly manager of the Western Division of the company, Mr. Lakin was president and a director of the Indiana and Ohio Subsidiaries of the United Public Utilities Corp. from 1932 until The Dayton Power and Light Co. purchased the Ohio holdings of this company in 1948.

All of Mr. Lakin's education and working experience, as well as his service in the Army during World War I, has been in the utility field. He started as a meter reader with the Union City Electric Co. of Union City, Indiana, in 1913.

From 1919 to 1924 he was employed by the National Electric Power Co. at Kansas City, the last three years as assistant to the manager. He then became assistant general manager in charge of operations and construction of the Kansas Electric Power Co. In 1926 to 1932 he had general supervision of electrical operations and construction of all the subsidiaries of the National Electric Power Co. of New York.

Consolidated Edison Co. of New York, Inc., has announced the merger into itself of two of its subsidiaries, the Westchester Lighting Co. and The Yonkers Electric Light and Power Company.

EDWARD P. PREZZANO and L. A. SCOFIELD, who were president and vice president, respectively, of the two Westchester utilities, have been elected vice presidents of Consolidated Edison and will direct the company's Westchester Division.

Mr. Prezzano began his utility career in 1902 as a clerk for the Standard Gas Light Co. Two years later he joined

Consolidated Gas Co. and by 1922 had advanced to be assistant general commercial manager. He joined Westchester Lighting as secretary in 1924 and later was elected vice president of The Yonkers Electric Light and Power Co. and a vice president of Bronx Gas and Electric Co. He became president of Westchester Lighting and of the Yonkers company in 1936, later becoming a director of both companies as well as a trustee of Consolidated Edison.

Mr. Scofield joined New York Edison as an assistant tester in 1912, and worked steadily upward through the ranks—taking time out for combat service in World War I—until he became general distribution manager of Consolidated Edison in 1941. He was later made general sales manager and assistant vice president of the parent company before being elected vice president and director of the Westchester and Yonkers companies in 1948.

Consolidated Edison has also announced the election of FRANK J. BISCHOFF, formerly vice president and director of the Westchester companies, as assistant vice president. Other Westchester and Yonkers utility executives elected as officers of Consolidated Edison are JOHN P. MCLOUGHLIN, as assistant controller; CARL L. CARLSON, as assistant treasurer; and FRANK M. NILAN as assistant secretary.

Mr. Bischoff learned the utility business in a series of Consolidated Edison jobs before becoming a vice president of the Westchester and Yonkers companies in 1946. He began in 1903 with Consolidated Gas, did accounting work for that company and the Astoria Light, Heat and Power Co., and eventually became controller of Consolidated Edison.

Mr. McLoughlin has been affiliated with the Westchester utility companies since 1909 and was secretary and treasurer of the Westchester and Yonkers companies at the time of the merger.

Mr. Carlson was first employed by Westchester Lighting in 1912. He rose to be auditor of disbursements of both the Westchester and Yonkers companies and later became assistant treasurer.

Mr. Nilan began with Westchester Lighting as an office boy in 1914. By 1943, he had become executive assistant to the president and assistant secretary of both Westchester County utility companies.

STANLEY STOKES and GEORGE P. GAMBLE have been elected vice presidents of the Union Electric Co. of Missouri.

Mr. Stokes, chief engineer since 1941, began his career with Union Electric in 1912. Since then he has held the posts of assistant to the vice president, assistant to the president, and manager of outlying divisions. Culminating his 20 years' experience as general supervisor of the company's construction programs, he has now assumed direct charge of Union Electric's $400 million post-war expansion program.

Mr. Gamble entered the utility field in 1922 with the General Electric Co. at Schenectady and later joined the engineering firm of Stone and Webster in Boston. He was assigned to the construction of the Bagnell Dam project, which Stone and Webster undertook in 1929 for Union Electric, and he later served as a resident electrical engineer at the dam.

Mr. Gamble joined Union Electric in 1932 as a member of the production and distribution staff, and in 1943 he assumed the position of superintendent of power production.

HAROLD H. BEATY has been appointed rural service manager of the Edison Electric Institute. He will be concerned with the farm electrification activities of the EEI and will assist the various committees of the Institute's farm section.

Mr. Beaty attended Iowa State College, where he was awarded a B. S. degree in electrical engineering in 1931 and an M. S. degree in agricultural engineering in 1942. Since 1936 he has been in charge of the college's electrification programs, directing extension, research and teaching activities in rural electrification. He is also experienced in electric light and power company operation through his association with the Iowa Electric Co., Cedar Rapids, prior to his appointment to Iowa State.

Mr. Beaty is a member of Gamma Sigma Delta, the national honor society of agriculture; Epsilon Sigma Phi, the agricultural extension service national honor society; and the American Society of Agricultural Engineers. He is also the author of a number of bulletins, leaflets, news stories, and magazine articles on rural electrification.

In his new post, Mr. Beaty suceeds W. J. RIDOUT, JR., who withdrew from the EEI to become editor of *Electricity on the Farm* magazine.

L. S. PETERMAN has been appointed Santa Paula district manager for Southern California Edison Co. Mr. Peterman, formerly director of power in the Los Angeles area, succeeds L. S. LOTHERIDGE, who is retiring after 45 years with the company.

WILLIAM H. WAGNER, sales manager of the Wisconsin Electric Power Co., was elected chairman of the Sales and Service Section, Electric Division, of the Wisconsin Utilities Association at the closing session of its Electric and Gas Sections convention, held in Milwaukee. Mr. Wagner succeeds J. D. HOWARD. Ross WILLIAMS, manager, Commercial Department, Wisconsin Michigan Power Co., was elected vice-chairman.

ARNOLD G. BUR, sales manager of the Wisconsin Public Service Corp., was advanced from vice-chairman to chairman of the Sales & Service Section, Gas Division, succeeding Mr. E. P. MINK. J. H. MIKULA, sales manager of the Milwaukee Gas Light Co., was elected vice-chairman.

RUFUS M. BONDURANT has been appointed district engineer for the Appalachian Electric Power Co. in the Abingdon district. Mr. Bondurant has been with the company since 1938 and was formerly distribution engineer in the Bluefield district.

THOMAS M. KELLIHER has been appointed superintendent of power for the Worcester County Electric Co. Mr. Kelliher, who began his utility career in 1914, served as watch engineer at the steam plant of the Webster and Southbridge Gas and Electric Co. in Webster and also at the Webster Street station of the former Worcester Electric Light Co., prior to his appointment as chief engineer for the latter company.

E. H. PERRY, former superintendent of power at Worcester County Electric Co., will assume the office of consulting engineer. Mr. Perry has served for forty years with electric utilities, starting as an oiler with the Worcester Electric Light Co. He was watch engineer for Worcester Consolidated Street Railways and held the same position at Worcester Electric Light Co., where he advanced to the office of chief engineer, and then superintendent of power.

CONVENTIONS AND MEETINGS

MARCH

1-2 Canadian Electrical Association, Engineering and Operating Division Sections, Western Zone, Royal Alexandra Hotel, Winnipeg, Man.
5-7 Canadian Electrical Association, Sales and General Divisions Sections, Western Zone, Bessborough Hotel, Saskatoon, Sask.
8-9 Pennsylvania Electric Association, Prime Movers Committee, Berkshire Hotel, Reading, Pa.
12-15 NEMA Annual Meeting, Edgewater Beach Hotel, Chicago, Ill.
20 ECAP Meeting, Biltmore Hotel, New York, N. Y.
21 ECAP Copy Group Meeting, Advertising Club, New York, N. Y.
21-22 EEI Industrial Relations Committee, joint with Personnel Committee, AGA, and New England Utility Personnel Association, Managers Conference, New England Gas Association, Boston, Mass.
29-30 Oklahoma Utilities Association, Annual Convention, Mayo Hotel, Tulsa, Okla.
29-30 Southeastern Electric Exchange, Engineering and Operation Section, Vinoy Park Hotel, St. Petersburg, Fla.

APRIL

2-5 17th Annual EEI Sales Conference, Edgewater Beach Hotel, Chicago, Ill. (April 1-2, Commercial Division Committees.)
2-5 ASME Spring Meeting, Atlanta Biltmore Hotel, Atlanta, Ga.
4-6 Midwest Power Conference, Sponsored by Illinois Institute of Technology, Sherman Hotel, Chicago, Ill.
4-6 Missouri Valley Electric Association, Engineering Conference, President Hotel, Kansas City, Mo.
5 Illuminating Engineering Society, National Council, Chicago, Ill.
6 PIP Steering Committee, Stevens Hotel, Chicago, Ill.
10-11 Indiana Electric Association, Annual Young Men's Utility Conference, Ipalco Hall, Indianapolis, Ind.
11-13 Southeastern Electric Exchange, 18th Annual Conference, Boca Raton Club, Boca Raton, Fla.
15-18 Rocky Mountain Electrical League, Annual Spring Conference, Shirley Savoy Hotel, Denver, Colo.
16-17 EEI Power Station Chemistry Subcommittee, Palmer House, Chicago, Ill.
16-18 EEI Transportation Committee jointly with AGA Motor Vehicle Committee, Peabody Hotel, Memphis, Tenn.
17-19 ASME, Process Industries Division Conference, Lord Baltimore Hotel, Baltimore, Md.
19 EEI Industrial Relations Committee, 420 Lexington Ave., New York, N. Y.
23-25 1951 Conference of Electric and Gas Utility Accountants, Hotel Sherman, Chicago, Ill.
25-27 Northwest Electric Light & Power Association, Engineering Section, Hotel Utah, Salt Lake City, Utah.
26 ECAP Management Group Meeting, New York, N. Y.
27 PIP Presidents Conference, Mid-Atlantic Group, Biltmore Hotel, New York, N. Y.
30-May 2—EEI Purchasing & Stores Committee Annual Conference, Lord Baltimore Hotel, Baltimore, Md.

MAY

1-2 EEI Transmission and Distribution Committee, Edgewater Beach Hotel, Chicago, Ill.
3-4 EEI Hydraulic Power Committee, Tapoco Lodge, N. C.
3-4 Pennsylvania Electric Association, Communications Committee, Bedford Springs Hotel, Bedford, Pennsylvania.
4 New Jersey Utilities Association, Spring Meeting, Seaview Country Club, Absecon, N. J.
7-9 Northwest Electric Light & Power Association, Business Development Section, Multnomah Hotel, Portland, Ore.
7-9 Joint Meeting, EEI Meter & Service Committee and AEIC Committee on Metering & Service Methods, Huntington Hotel, Pasadena, Calif.
7-11 National Fire Protection Association Annual Meeting, Hotel Statler, Detroit, Mich.
9 EEI Commercial Electric Cooking Conference, Sheraton Hotel, Chicago, Ill.
10-11 Pennsylvania Electric Association, Joint Spring Meeting of Transmission and Distribution Committee and Electrical Equipment Committee, Abraham Lincoln Hotel, Reading, Penna.
11 EEI Insurance Committee, Hotel Statler, New York, N. Y.
16 ECAP Copy Group Meeting, New York, N. Y.
16-18 Northwest Electric Light & Power Association, Personnel Section, Davenport Hotel, Spokane, Wash.
17-18 Missouri Valley Electric Association, Accounting Conference, President Hotel, Kansas City, Mo.
17-19 Public Utilities Advertising Association Annual Meeting, Hotel New Yorker, New York City, N. Y.
18 National Association of Electric Companies Annual Meeting, Mayflower Hotel, Washington, D. C.
20-27 Week of National Association of Electrical Distributors, Atlantic City, New Jersey.
21-22 EEI Accident Prevention Committee, Hotel Utah, Salt Lake City, Utah.
21-23 Missouri Association of Public Utilities, Annual Convention, Jefferson Hotel, St. Louis, Mo.
21-23 Pacific Coast Electrical Association, Annual Convention, Biltmore Hotel, Los Angeles, Calif.
28-29 EEI Electrical Equipment Committee, Hotel Biltmore, Los Angeles, Calif.

JUNE

4 EEI Industrial Relations Committee, Denver, Colo.
4-7 EDISON ELECTRIC INSTITUTE, Nineteenth Annual Convention, Denver, Colo.
11-15 ASME Semi-Annual Meeting, Royal York Hotel, Toronto, Ontario.
13-16 ASCE Summer Meeting, Louisville, Ky.
14 Illuminating Engineering Society, National Council, New York, N. Y.
18-21 Canadian Electrical Association, Annual Convention, Algonquin Hotel, St. Andrews, New Brunswick.
24-27 Michigan Electric Light Association Annual Convention, Mackinac Island, Mich.
25-29 ASME Oil and Gas Power Division Conference, Baker Hotel, Dallas, Tex.
25-29 AIEE Summer General Meeting, Royal York Hotel, Toronto, Ontario.

JULY

2-4 American Society of Heating & Ventilating Engineers, Semi-Annual Meeting, Portland, Ore.

AUGUST

27-30 Illuminating Engineering Society, National Technical Conference, Hotel Shoreham, Washington, D. C.

SEPTEMBER

9-12 Rocky Mountain Electrical League Fall Convention, La Fonda Hotel, Santa Fe, N. M.
10-14 Joint ASME Industrial Instruments & Regulators Division, and Instrument Society of America, Exhibit and Conference, Houston, Texas.
20-21 PIP Second Annual Workshop Conference, Edgewater Beach Hotel, Chicago, Ill.
24-26 ASME Petroleum Mechanical Engineering Conference, Hotel Mayo, Tulsa, Okla.
25-28 ASME Fall Meeting, Hotel Radisson, Minneapolis, Minn.

OCTOBER

1-2 Iowa Utilities Association, Management Conference, Fort Des Moines Hotel, Des Moines, Ia.
8-12 39th National Safety Congress and Exposition of National Safety Council, Chicago, Ill.
9-10 National Farm Electrification Conference, Gibson Hotel, Cincinnati, Ohio.
10-12 Indiana Electric Association Annual Convention, French Lick Springs Hotel, French Lick, Ind.
11-12 ASME Fuels—AIME Coal Conference, Roanoke, Va.
15-17 American Gas Association Annual Convention, Kiel Auditorium, St. Louis, Mo.
22-25 ASCE New York Convention, New York, N. Y.

NOVEMBER

12-15 NEMA, Haddon Hall, Atlantic City, N. J.
25-30 ASME Annual Meeting, Chalfonte-Haddon Hall, Atlantic City, N. J.

EDISON ELECTRIC INSTITUTE OFFICERS AND COMMITTEES

OFFICERS

L. V. SUTTON, *President*.....Carolina Power and Light Co., Raleigh, N. C.
H. B. BRYANS, *Vice President*.....Philadelphia Electric Co., Philadelphia, Pa.
H. S. BENNION, *Vice President and Managing Director*...420 Lexington Avenue, New York, N. Y.
K. B. CRUMB, *Treasurer*.....American Gas & Electric Service Corp., New York, N. Y.
MAE B. WOODS, *Secretary*.....420 Lexington Avenue, New York, N. Y.

BOARD OF DIRECTORS

(Terms Expiring 1951)

J. M. BARRY,.....Alabama Power Co., Birmingham, Ala.
STUART COOPER .....Delaware Power and Light Co., Wilmington, Del.
GEORGE M. GADSBY.....Utah Power and Light Co., Salt Lake City, Utah
D. E. KARN.....Consumers Power Co., Jackson, Mich.
J. E. LOISEAU.....Public Service Co. of Colorado, Denver, Colo.
D. C. LUCE.....Public Service Electric and Gas Co., Newark, N. J.
PAUL B. McKEE.....Pacific Power and Light Co., Portland, Ore.
C. B. McMANUS.....Georgia Power Co., Atlanta, Ga.
S. C. McMEEKIN.....South Carolina Electric & Gas Co., Columbia, S. C.
GROVER C. NEFF.....Wisconsin Power and Light Co., Madison, Wis.
P. H. POWERS.....West Penn Power Co, Pittsburgh, Pa.
HAROLD QUINTON .....Southern California Edison Co., Los Angeles, Cal.
J. B. THOMAS.....Texas Electric Service Co., Ft. Worth, Texas
JOHN T. WARD.....Boston Edison Co., Boston, Mass.
W. F. WYMAN.....Central Maine Power Co., Augusta, Maine

(Terms Expiring 1952)

W. C. BECKJORD.....The Cincinnati Gas & Electric Co., Cincinnati, Ohio
H. B. BRYANS.....Philadelphia Electric Co., Philadelphia, Pa.
H. C. CUMMINS.....Northern States Power Co., Minneapolis, Minn.
CHAS. B. DELAFIELD.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
W. G. B. EULER.....Pacific Gas and Electric Co., San Francisco, Cal.
J. G. HOLTZCLAW.....Virginia Electric & Power Co., Richmond, Va.
F. C. KELLOGG.....Pioneer Service and Engineering Co., Chicago, Ill.
C. E. KOHLHEPP.....Wisconsin Public Service Corp., Milwaukee, Wis.
P. H. McCANCE.....Duquesne Light Co., Pittsburgh, Pa.
R. E. MOODY..... ...Union Electric Co. of Missouri, St. Louis, Mo.
IRWIN L. MOORE.....New England Electric System, Boston, Mass.
A. T. O'NEILL.....Niagara Mohawk Power Corp., Buffalo, N. Y.
HAROLD TURNER .....The Ohio Power Co., Canton, Ohio
G. W. VAN DERZEE.....Wisconsin Electric Power Co., Milwaukee, Wis.
FRANK M. WILKES..... Southwestern Gas & Electric Co., Shreveport, La.

(Terms Expiring 1953)

A. M. BEEBEE.....Rochester Gas and Electric Corp., Rochester, N. Y.
C. P. CRANE.....Consolidated Gas Electric Light & Power Co. of Baltimore, Baltimore, Md.
E. W. DOEBLER.....Long Island Lighting Co., Mineola, L. I.
M. F. GILL.....Kansas Gas and Electric Co., Wichita, Kan.
N. B. GUSSETT.....Iowa Power and Light Co., Des Moines, Iowa
D. S. KENNEDY.....Oklahoma Gas and Electric Co., Oklahoma City, Okla.
L. M. KLAUBER.....San Diego Gas and Electric Co., San Diego, Cal.
R. H. KNOWLTON.....The Connecticut Light and Power Co., Hartford, Conn.
E. L. LINDSETH.....The Cleveland Electric Illuminating Co., Cleveland, Ohio
H. E. MEADE.....New Orleans Public Service Inc., New Orleans, La.
J. W. PARKER.....The Detroit Edison Co., Detroit, Mich.
H. T. PRITCHARD.....Indianapolis Power and Light Co., Indianapolis, Ind.
K. M. ROBINSON.....The Washington Water Power Co., Spokane, Wash.
L. V. SUTTON.....Carolina Power and Light Co., Raleigh, N. C.
H. C. THUERK.....New Jersey Power and Light Co., Dover, N. J.

Executive Committee

W. C. Beckjord, C. P. Crane, C. B. Delafield, E. W. Doebler, R. H. Knowlton, E. L. Lindseth, D. C. Luce, P. H. Powers, and J. T. Ward.

EDISON ELECTRIC INSTITUTE OFFICERS AND COMMITTEES

(Continued)

ADVISORY COMMITTEE 1950-1951

D. C. BARNES.....Virginia Electric & Power Co., Charlottesville, Va.
E. F. BARRETT..Long Island Lighting Co., Mineola, N. Y.
S. R. BERTRON.....Houston Lighting & Power Co., Houston, Tex.
J. B. BLACK.....Pacific Gas and Electric Co., San Francisco, Calif.
GEORGE H. BLAKE....Public Service Electric & Gas Co., Newark, N. J.
B. F. BRAHENEY.....Northern States Power Co., Minneapolis, Minn.
PRENTISS BROWN..The Detroit Edison Co., Detroit, Mich.
CURTIS E. CALDER.....Electric Bond & Share Co., New York, N. Y.
J. W. CARPENTER..Texas Power & Light Co., Dallas, Tex.
A. H. KEHOE....Consolidated Edison Co. of N. Y., Inc., New York, N. Y.
H. P. LIVERSIDGE.....Philadelphia Electric Co., Philadelphia, Pa.
EARLE J. MACHOLD.....Niagara Mohawk Power Corp., Syracuse, N. Y.
T. W. MARTIN...Alabama Power Co., Birmingham, Ala.
J. W. McAFEE.....Union Electric Co. of Missouri, St. Louis, Mo.
W. C. MULLENDORE....Southern California Edison Co., Los Angeles, Calif.
A. B. PATERSON.....New Orleans Public Service, Inc., New Orleans, La.
W. H. SAMMIS.....Ohio Edison Co., Akron, Ohio
WILLIAM SCHMIDT, JR., Consolidated Gas Electric Light & Power Co., Baltimore, Md.
PHILIP SPORN...American Gas & Electric Service Corp., New York, N. Y.
E. S. THOMPSON.....The West Penn Electric Co., Inc., New York, N. Y.
J. V. TONER.....Boston Edison Co., Boston, Mass.
J. R. WHITING....Consumers Power Co., Jackson, Mich.
E. A. YATES...The Southern Co., Inc., New York, N. Y.

CHAIRMEN OF EDISON ELECTRIC INSTITUTE COMMITTEES (1950-1951)

ACCOUNTING

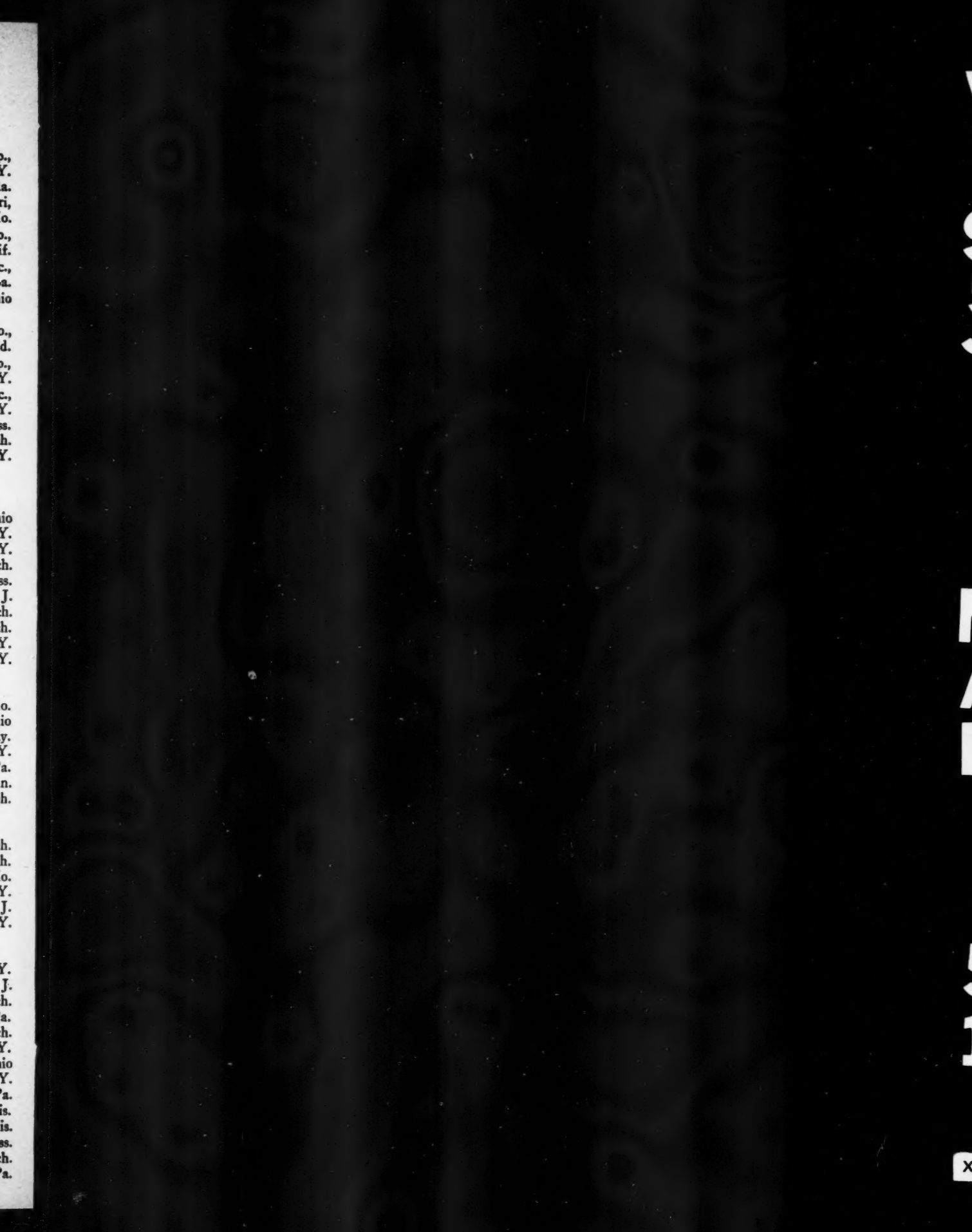
Accounting Division Executive, RALPH H. SMITH.....The Cleveland Electric Illuminating Co., Cleveland, Ohio
Application of Accounting Principles, H. H. SCAFF.....Ebasco Services Inc., New York, N. Y.
Customer Accounting, M. J. WALSH.....Consolidated Edison Co. of New York, Inc., New York, N. Y.
Customer Collections, F. J. FLOM..... The Detroit Edison Co., Detroit, Mich.
Customer Relations, E. G. PRENTICE .....NEGEA Service Corp., Cambridge, Mass.
Depreciation Accounting, ALEX. E. BAUHAN.....Public Service Electric & Gas Co., Newark, N. J.
General Accounting, L. C. PROVENCHER.....The Detroit Edison Co., Detroit, Mich.
Internal Auditing, H. R. SYMES.....The Detroit Edison Co., Detroit, Mich.
Plant Accounting and Records, C. E. RAINES.....Niagara Mohawk Power Corp., Albany, N. Y.
Taxation Accounting, CHARLES WIGAND.....Commonwealth Services, Inc., New York, N. Y.

COMMERCIAL

Commercial Division General, M. E. SKINNER.....Union Electric Co. of Missouri, St. Louis, Mo.
Sales Personnel and Training, R. J. MILLER.....The Cleveland Electric Illuminating Co., Cleveland, Ohio
Wiring and Specifications, R. W. WILSON.....Kentucky Utilities Co., Inc., Lexington, Ky.
Commercial Sales Section, C. D. HOLLISTER.....Niagara Mohawk Power Corp., Albany, N. Y.
Farm Section, R. T. JONES.....Pennsylvania Power and Light Co., Allentown, Pa.
Industrial Power and Heating Section, ROBERT G. ELY.....The Connecticut Light and Power Co., Hartford, Conn.
Residential Section, E. O. GEORGE.....The Detroit Edison Co., Detroit, Mich.

ENGINEERING

Engineering Division General, H. P. SEELYE.....The Detroit Edison Co., Detroit, Mich.
Electrical Equipment, J. H. FOOTE.....Commonwealth Associates, Inc., Jackson, Mich.
Hydraulic Power, G. J. VENCILL.....Union Electric Co. of Missouri, St. Louis, Mo.
Meter and Service, H. A. BROWN.....Rochester Gas & Electric Corp., Rochester, N. Y.
Prime Movers, F. P. FAIRCHILD.....Public Service Electric & Gas Co., Newark, N. J.
Transmission and Distribution, J. E. MCCORMACK.....Consolidated Edison Co. of New York, Inc., New York, N. Y.

GENERAL

Accident Prevention, W. T. ROGERS.....Ebasco Services Inc., New York, N. Y.
Codes and Standards, D. C. LUCE.....Public Service Electric & Gas Co., Newark, N. J.
Electric Power Survey, WALKER L. CISLER.....The Detroit Edison Co., Detroit, Mich.
Financing and Investor Relations, C. E. OAKES.....Pennsylvania Power and Light Co., Allentown, Pa.
Industrial Relations, S. F. LEAHY.....The Detroit Edison Co., Detroit, Mich.
Insurance, I. M. CARPENTER.....Ebasco Services Inc., New York, N. Y.
Legal, RALPH M. BESSE.....The Cleveland Electric Illuminating Co., Cleveland, Ohio
Membership, E. S. THOMPSON.....The West Penn Electric Co., Inc., New York, N. Y.
Prize Awards, G. E. WHITWELL.....Philadelphia Electric Co., Philadelphia, Pa.
Purchasing and Stores, H. E. HODGSON.....Wisconsin Power & Light Co., Madison, Wis.
Rate Research, HARRY I. MILLER.....Wisconsin Public Service Corp., Oshkosh, Wis.
Rural and Urban Development, G. R. KEEGAN.....Western Massachusetts Electric Co., Springfield, Mass.
Statistical, ELDRED H. SCOTT.....The Detroit Edison Co., Detroit, Mich.
Transportation, S. G. PAGE.....Duquesne Light Co., Pittsburgh, Pa.